UNODC
United Nations Office on Drugs and Crime

WORLD DRUG REPORT 2009

UNITED NATIONS OFFICE ON DRUGS AND CRIME
Vienna

World Drug Report
2009

UNITED NATIONS
New York, 2009

Copyright © 2009, United Nations Office on Drugs and Crime (UNODC)
ISBN: 978-92-1-148240-9
United Nations Publication Sales No. E.09.XI.12

This publication may be reproduced in whole or in part and in any form for educational or non-profit purposes without special permission from the copyright holder, provided acknowledgement of the source is made. UNODC would appreciate receiving a copy of any publication that uses this publication as a source.

No use of this publication may be made for resale or any other commercial purpose whatsoever without prior permission in writing from the United Nations Office on Drugs and Crime. Applications for such permission, with a statement of purpose and intent of the reproduction,should be addressed to UNODC,
Policy Analysis and Research Branch

DISCLAIMERS

This Report has not been formally edited.

The contents of this publication do not necessarily reflect the views or policies of UNODC or contributory organizations and neither do they imply any endorsement.

The designations employed and the presentation of material in this publication do not imply the expression of any opinion whatsoever on the part of UNODC concerning the legal status of any country, territory or city or its authorities, or concerning the delimitation of its frontiers or boundaries.

Photo on page 67 © Ivankmit / Dreamstime.com

Comments on the report are welcome and can be sent to:

Policy Analysis and Research Branch
United Nations Office on Drugs and Crime
PO Box 500
1400 Vienna
Austria
Tel: (+43) 1 26060 0
Fax: (+43) 1 26060 5827

E-mail: SASS@unodc.org

Website: www.unodc.org

Financial support for the World Drug Report 2009 was provided by the Government of Sweden.

CONTENTS

Preface 1
Introduction 5
Explanatory notes 6
Executive Summary 9
Special features: Improving the quality of drug data 21
Trends in drug use among young people: what do we know? 23
Police-recorded drug offences 29

1. TRENDS IN WORLD DRUG MARKETS

1.1 Opium / heroin market
1.1.1 Summary trend overview 33
1.1.2 Production 33
1.1.3 Trafficking 41
1.1.4 Consumption 52
1.2 Coca / cocaine market
1.2.1 Summary trend overview 63
1.2.2 Production 63
1.2.3 Trafficking 70
1.2.4 Consumption 80
1.3 Cannabis market
1.3.1 Summary trend overview 89
1.3.2 Production 89
1.3.3 Trafficking 98
1.3.4 Consumption 106
1.4 Amphetamine-type stimulants market
1.4.1 Summary trend overview 115
1.4.2 Production 115
1.4.3 Trafficking 126
1.4.4 Consumption 144

2. CONFRONTING UNINTENDED CONSEQUENCES: DRUG CONTROL AND THE CRIMINAL BLACK MARKET

2.1 Why illicit drugs must remain illicit 163
2.2 Move beyond reactive law enforcement 166
2.3 Create flow-specific drug strategies 172
2.4 Strengthen international resistance to drug markets 179
2.5 Take the crime out of drug markets 182

CONTENTS

3. STATISTICAL ANNEX

3.1 Production
- 3.1.1 Afghanistan 187
- 3.1.2 Bolivia 194
- 3.1.3 Colombia 197
- 3.1.4 Lao PDR 202
- 3.1.5 Myanmar 204
- 3.1.6 Peru 208

3.2 Seizures 213

3.3 Seizures of illicit laboratories 214

3.4 Prices
- 3.4.1 Opiates: Wholesale, street prices and purity levels 215
- 3.4.2 Cocaine: Wholesale, street prices and purity levels 220
- 3.4.3 Cannabis: Wholesale, street prices and purity levels 224
- 3.4.4 Amphetamine-type stimulants: Wholesale, street prices and purity levels 230

3.5 Consumption
- 3.5.1 Annual prevalence
  - 3.5.1.1 Opiates 235
  - 3.5.1.2 Cocaine 240
  - 3.5.1.3 Cannabis 245
  - 3.5.1.4 Amphetamine-type stimulants (excluding ecstasy) 250
  - 3.5.1.5 Ecstasy 255
- 3.5.2. Treatment demand
  - 3.5.2.1 Primary drugs of abuse among persons treated for drug problems in Africa 260
  - 3.5.2.2 Primary drugs of abuse among persons treated for drug problems in America 261
  - 3.5.2.3 Primary drugs of abuse among persons treated for drug problems in Asia 262
  - 3.5.2.4 Primary drugs of abuse among persons treated for drug problems in Europe 263
  - 3.5.2.5 Primary drugs of abuse among persons treated for drug problems in Oceania 264

3.6 Youth and school surveys
- 3.6.1 Heroin 265
- 3.6.2 Cocaine 269
- 3.6.3 Cannabis 275
- 3.6.4 Amphetamine-type stimulants (excluding ecstasy) 279
- 3.6.5 Ecstasy 283

3.7 Drug-related crime 286

4. METHODOLOGY 293

Acknowledgements 306

PREFACE

The end of the first century of drug control (it all started in Shanghai in 1909) coincided with the closing of the UNGASS decade (launched in 1998 by a General Assembly Special Session on Drugs). These anniversaries stimulated reflection on the effectiveness, and the limitations, of drug policy. The review resulted in the reaffirmation that illicit drugs continue to pose a health danger to humanity. That's why drugs are, and should remain, controlled. With this sanction in mind, Member States confirmed unequivocal support for the UN Conventions that have established the world drug control system.

At the same time, UNODC has highlighted some negative, obviously unintended effects of drug control, foreshadowing a needed debate about the ways and means to deal with them. Of late, there has been a limited but growing chorus among politicians, the press, and even in public opinion saying: *drug control is not working*. The broadcasting volume is still rising and the message spreading.

Much of this public debate is characterized by sweeping generalizations and simplistic solutions. Yet, the very heart of the discussion underlines the need to evaluate the effectiveness of the current approach. Having studied the issue on the basis of our data, UNODC has concluded that, while changes are needed, they should be in favour of different means to protect society against drugs, rather than by pursuing the different goal of abandoning such protection.

A. What's the repeal debate about?

Several arguments have been put forward in favour of repealing drug controls, based on (i) economic, (ii) health, and (iii) security grounds, and a combination thereof.

I. The economic argument for drug legalization says: *legalize drugs, and generate tax income*. This argument is gaining favour, as national administrations seek new sources of revenue during the current economic crisis. This *legalize and tax* argument is un-ethical and uneconomical. It proposes a perverse tax, generation upon generation, on marginalized cohorts (lost to addiction) to stimulate economic recovery. Are the partisans of this cause also in favour of legalizing and taxing other seemingly intractable crimes like human trafficking? Modern-day slaves (and there are millions of them) would surely generate good tax revenue to rescue failed banks. The economic argument is also based on poor fiscal logic: any reduction in the cost of drug control (due to lower law enforcement expenditure) will be offset by much higher expenditure on public health (due to the surge of drug consumption). The moral of the story: don't make wicked transactions legal just because they are hard to control.

II. Others have argued that, following legalization, a health threat (in the form of a drug epidemic) could be avoided by state regulation of the drug market. Again, this is naive and myopic. First, the tighter the controls (on anything), the bigger and the faster a parallel (criminal) market will emerge – thus invalidating the concept. Second, only a few (rich) countries could afford such elaborate controls. What about the rest (the majority) of humanity? Why unleash a drug epidemic in the developing world for the sake of libertarian arguments made by a pro-drug lobby that has the luxury of access to drug treatment? Drugs are not harmful because they are controlled – they are controlled because they are harmful; and they do harm whether the addict is rich and beautiful, or poor and marginalized.

Drug statistics keep speaking loud and clear. Past runaway growth has flattened out and the drug crisis of the 1990s seems under control. This 2009 Report provides further evidence that drug cultivation (opium and coca) are flat or down. Most importantly, major markets for opiates (Europe and South East Asia), cocaine (North America), and cannabis (North America, Oceania and Europe) are in decline. The increase in consumption of synthetic stimulants, particularly in East Asia and the Middle East, is cause for concern, although use is declining in developed countries.

III. The most serious issue concerns organized crime. All market activity controlled by the authority generates parallel, illegal transactions, as stated above. Inevitably, drug controls have generated a criminal market of macro-economic dimensions that uses violence and corruption to mediate between demand and supply. *Legalize drugs, and organized crime will lose its most profitable line of activity,* critics therefore say.

Not so fast. UNODC is well aware of the threats posed by international drug mafias. Our estimates of the value

of the drug market (in 2005) were ground-breaking. The Office was also first to ring the alarm bell on the threat of drug trafficking to countries in West and East Africa, the Caribbean, Central America and the Balkans. In doing so we have highlighted the security menace posed by organized crime, a matter now periodically addressed by the UN Security Council.

Having started this drugs/crime debate, and having pondered it extensively, we have concluded that these drug-related, organized crime arguments are valid. They must be addressed. I urge governments to recalibrate the policy mix, without delay, in the direction of more controls on crime, without fewer controls on drugs. In other words, while the crime argument is right, the conclusions reached by its proponents are flawed.

Why? Because we are not counting beans here: we are counting lives. Economic policy is the art of counting beans (money) and handling trade-offs: inflation vs. employment, consumption vs. savings, internal vs. external balances. Lives are different. If we start trading them off, we end up violating somebody's human rights. There cannot be exchanges, no *quid-pro-quos*, when health and security are at stake: modern society must, and can, protect both these assets with unmitigated determination.

I appeal to the heroic partisans of the human rights cause worldwide, to help UNODC promote the right to health of drug addicts: they must be assisted and reintegrated into society. Addiction is a health condition and those affected by it should not be imprisoned, shot-at or, as suggested by the proponent of this argument, traded-off in order to reduce the security threat posed by international mafias. Of course, the latter must be addressed, and below is our advice.

B. A better policy mix

The crime/drugs nexus was the subject of a Report entitled *Organized Crime and its Threat to Security: tackling a disturbing consequence of drug control*[1] that I presented to the Commission on Narcotic Drugs and the Crime Commission in 2009. Because of the importance of this subject, we have devoted the thematic chapter of this year's Report to examining further the issue and its policy implications. Here are some of the main points.

First, law enforcement should shift its focus from drug users to drug traffickers. Drug addiction is a health condition: people who take drugs need medical help, not criminal retribution. Attention must be devoted to heavy drug users. They consume the most drugs, cause the greatest harm to themselves and society – and generate the most income to drug mafias. Drug courts and medical assistance are more likely to build healthier and safer societies than incarceration. I appeal to Member States to pursue the goal of universal access to drug treatment as a commitment to save lives and reduce drug demand: the fall of supply, and associated crime revenues, will follow. Let's progress towards this goal in the years ahead, and then assess its beneficial impact on the next occasion Member States will meet to review the effectiveness of drug policy (2015).

Second, we must put an end to the tragedy of cities out of control. Drug deals, like other crimes, take place mostly in urban settings controlled by criminal groups. This problem will worsen in the mega-cities of the future, if governance does not keep pace with urbanization. Yet, arresting individuals and seizing drugs for their personal use is like pulling weeds – it needs to be done again the next day. The problem can only be solved by addressing the problem of slums and dereliction in our cities, through renewal of infrastructures and investment in people – especially by assisting the youth, who are vulnerable to drugs and crime, with education, jobs and sport. Ghettos do not create junkies and the jobless: it is often the other way around. And in the process mafias thrive.

Third, and this is the most important point, governments must make use, individually and collectively, of the international agreements against uncivil society. This means to ratify and apply the UN Conventions against Organized Crime (TOC) and against Corruption (CAC), and related protocols against the trafficking of people, arms and migrants. So far, the international community has not taken these international obligations seriously. While slum dwellers suffer, Africa is under attack, drug cartels threaten Latin America, and mafias penetrate bankrupt financial institutions, junior negotiators at these Conventions' Conferences of the Parties have been arguing about bureaucratic processes and

1 E/CN.15/2009/CRP.4 - E/CN.7/2009/CRP.4; http://www.unodc.org/unodc/en/commissions/CCPCJ/session/18.html

arcane notions of inclusiveness, ownership, comprehensiveness, and non-ranking. There are large gaps in the implementation of the Palermo and the Merida Conventions, years after their entry into force, to the point that a number of countries now face a crime situation largely caused by their own choice. This is bad enough. Worse is the fact that, quite often vulnerable neighbors pay an even greater price.

There is much more our countries can do to face the brutal force of organized crime: the context within which mafias operate must also be addressed.

- Money-laundering is rampant and practically unopposed, at a time when interbank-lending has dried up. The recommendations devised to prevent the use of financial institutions to launder criminal money, today are honored mostly in the breach. At a time of major bank failures, *money doesn't smell*, bankers seem to believe. Honest citizens, struggling in a time of economic hardship, wonder why the proceeds of crime – turned into ostentatious real estate, cars, boats and planes – are not seized.

- Another context deserving attention concerns one of humanity's biggest assets, the internet. It has changed our life, especially the way we conduct business, communication, research and entertainment. But the web has also been turned into a weapon of mass destruction by criminals (and terrorists).

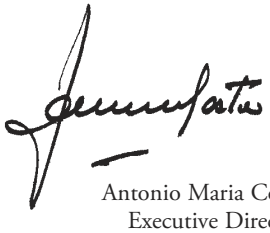
Surprisingly, and despite the current crime wave, calls for new international arrangements against money-laundering and cyber-crime remain un-answered. In the process, drug policy gets the blame and is subverted.

C. A double "NO"

To conclude, transnational organized crime will never be stopped by drug legalization. Mafias coffers are equally nourished by the trafficking of arms, people and their organs, by counterfeiting and smuggling, racketeering and loan-sharking, kidnapping and piracy, and by violence against the environment (illegal logging, dumping of toxic waste, etc). The drug/crime trade-off argument, debated above, is no other than the pursuit of the old drug legalization agenda, persistently advocated by the pro-drug-lobby (Note that the partisans of this argument would not extend it to guns whose control – they say – should actually be enforced and extended: namely, *no to guns, yes to drugs*).

So far the drug legalization agenda has been opposed fiercely, and successfully, by the majority of our society. Yet, anti-crime policy must change. It is no longer sufficient to say: *no to drugs*. We have to state an equally vehement: *no to crime*.

There is no alternative to improving both security and health. The termination of drug control would be an epic mistake. Equally catastrophic is the current disregard of the security threat posed by organized crime.



Antonio Maria Costa
Executive Director
United Nations Office on Drugs and Crime

INTRODUCTION

Drug control has been on the global agenda for more than a century. As documented in the 2008 *World Drug Report*, the Chinese opium epidemic in the early twentieth century spurred concerted international action, chiefly in the form of a series of treaties passed over several decades. These treaties, in particular the 1961 Single Convention on Narcotic Drugs, the 1971 Convention on Psychotropic Substances, and the 1988 Convention against the Illicit Traffic in Narcotic Drugs and Psychotropic Substances, continue to define the international drug control system. The United Nations Office on Drugs and Crime (UNODC) is the guardian of these treaties and the United Nations lead agency on drug control.

At the twentieth special session of the General Assembly in 1998, Member States agreed to make significant progress towards the control of supply and demand for illicit drugs by the year 2008. They noted that this objective could only be achieved by means of the 'balanced approach' (giving demand as much attention as supply), and on the basis of regular assessments of global drug trends. UNODC has published such assessments annually since 1999.

Moreover, the General Assembly, in its resolution 61/183 of 13 March 2007, requested UNODC to continue to "publish the *World Drug Report* with comprehensive and balanced information about the world drug problem." This year, UNODC will continue to fulfil this mandate with the publication of the 2009 World Drug Report.

The *World Drug Report* aims to enhance Member States' understanding of global illicit drug trends, and to sensitize all Governments about the need for more systematic collection and reporting of data related to illicit drugs. UNODC relies on Member States to provide data, primarily through the annual reports questionnaire (ARQ). This year, out of some 200 distributed questionnaires, UNODC received 118 replies to the drug abuse section and 116 replies to the illicit supply of drugs section. In general, the ability of Member States to provide information on illicit drug supply is significantly better than their ability to provide demand-related data. Despite commendable progress, for example in the area of prevalence estimates, far more remains to be done to provide a solid, reliable basis for trend and policy analysis.

EXPLANATORY NOTES

Types of drugs:

ATS – Amphetamine-type stimulants (ATS) are a group of substances comprised of synthetic stimulants including amphetamine, methamphetamine, methcathinone and ecstasy-group substances (MDMA and its analogues). In cases where countries report to UNODC without indicating the specific ATS they are referring to, the term non-specified amphetamines is used.

Coca paste (or cocaine base) – An extract of the leaves of the coca bush. Purification of coca paste yields cocaine (hydrochloride).

Crack (cocaine) – Cocaine base obtained from cocaine hydrochloride through conversion processes to make it suitable for smoking.

Heroin HCl (heroin hydrochloride) – Injectable form of heroin, sometimes referred to as "Heroin no. 4"

Heroin no. 3 – A less refined form of heroin suitable for smoking.

Poppy straw – All parts (except the seeds) of the opium poppy, after mowing.

Terms: Since there is some scientific and legal ambiguity about the distinctions between drug 'use', 'misuse' and 'abuse', this report uses the neutral terms, drug 'use' or 'consumption'.

Annual prevalence means the number of people who have used a given drug at least once in the past year.

Annual prevalence rate refers to the percentage of a population (for example, in one country, or globally) that has used a given drug at least once in the past year.

Maps: The boundaries and names shown and the designations used on maps do not imply official endorsement or acceptance by the United Nations. A dotted line represents approximately the line of control in Jammu and Kashmir agreed upon by India and Pakistan. The final status of Jammu and Kashmir has not yet been agreed upon by the parties. Disputed boundaries (China/India) are represented by cross hatch due to the difficulty of showing sufficient detail.

Population data: The data on population used in this report comes from: United Nations, Department of Economic and Social Affairs, Population Division (2007). World Population Prospects: The 2006 Revision.

Regions: In various sections, this report uses a number of regional designations. These are not official designations. They are defined as follows:

- East Europe: European countries belonging to the Commonwealth of Independent States
- South-East Europe: Turkey and the non-European Union (EU) Balkan countries
- West and Central Europe: EU 25, European Free Trade Association, San Marino and Andorra
- North America: Canada, Mexico and the United States of America (USA)
- Near and Middle East/South-West Asia: Afghanistan, Bahrain, Iran (Islamic Republic of), Iraq, Israel, Jordan, Kuwait, Lebanon, Oman, Pakistan, Qatar, Palestinian Territory, Saudi Arabia, Syrian Arab Republic, United Arab Emirates and Yemen.
- East and South-East Asia: Brunei Darussalam, Cambodia, China (and Hong Kong, Macao, and Taiwan Province of China), Indonesia, Japan, Republic of Korea, Lao People's Democratic Republic, Malaysia, Mongolia, Myanmar, Philippines, Singapore, Thailand and Viet Nam
- South Asia: Bangladesh, India, Maldives, Nepal and Sri Lanka
- Central Asia and Transcaucasia: Armenia, Azerbaijan, Georgia, Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan
- Oceania: Australia, Fiji, Kiribati, Marshall Islands, Micronesia, Nauru, New Zealand, Palau, Papua New Guinea, Samoa, Solomon Islands, Tonga, Tuvalu, Vanuatu, and other Pacific island states and territories
- West and Central Africa: Angola, Burkina Faso, Cameroon, Cape Verde, Central African Republic, Chad, Congo (the Republic of), Côte d'Ivoire, Gabon, Ghana, Guinea, Liberia, Mali, Niger, Nigeria, Sao Tome and Principe, Senegal, Sierra Leone and Togo

The following abbreviations have been used in this Report:

AIDS	Acquired Immune-Deficiency Syndrome
ARQ	UNODC annual reports questionnaire
ATS	amphetamine-type stimulants
CICAD	Inter-American Drug Abuse Control Commission
CIS	Commonwealth of Independent States
COP	Colombian peso
DAINAP	Drug Abuse Information Network for Asia and the Pacific
DELTA	UNODC Database on Estimates and Long Term Trend Analysis
DIRAN	Colombian National Police – Antinarcotics Directorate
DUMA	Drug Use Monitoring in Australia
EMCDDA	European Monitoring Centre for Drugs and Drug Addiction
ESPAD	European School Survey Project on Alcohol and other Drugs
EUROPOL	European Police Office
F.O.	UNODC Field Office
GAP	UNODC Global Assessment Programme on Drug Abuse
Govt.	Government
HIV	Human Immunodeficiency Virus
HONLEA	Heads of National Drug Law Enforcement Agencies
IDU	injecting drug use
INCB	International Narcotics Control Board
INTERPOL	International Criminal Police Organization
LSD	lysergic acid diethylamide
MDA	3,4-methylenedioxyamphetamine (tenamfetamine)
MDE	3,4-methylenedioxyethylamphetamine
MDMA	3,4-methylenedioxymethamphetamine
NGO	Non-governmental organization
NIDA	National Institute of Drug Abuse (USA)
OECD	Organization for Economic Co-operation and Development
ONDCP	Office of National Drug Control Policy (USA)
P-2-P	1-phenyl-2-propanone (BMK)
SACENDU	South African Community Epidemiology Network on Drug Use
SAMHSA	Substance Abuse and Mental Health Services Administration (USA)
SOCA	Serious Organised Crime Agency (UK)
THC	Tetrahydrocannabinol
UAE	United Arab Emirates
UNAIDS	Joint United Nations Programme on HIV/AIDS
UNODC	United Nations Office on Drugs and Crime
USA	United States of America
WCO	World Customs Organization
WDR	*World Drug Report*
WHO	World Health Organization
3,4-MDP-2-P	3,4-methylenedioxyphenyl-2-propanone (PMK)

Weights and measurements:

l	litre
mg	milligram
kg	kilogram
mt	metric ton

EXECUTIVE SUMMARY

Overview

The year 2008 saw some encouraging reductions in the production of cocaine and heroin. In cooperation with the affected states, UNODC conducts annual crop surveys in the countries that produce the vast bulk of these drugs. These surveys show a reduction in opium poppy cultivation in Afghanistan of 19% and a reduction in coca cultivation in Colombia of 18%. Trends in other production countries are mixed, but are not large enough to offset the declines in these two major producers. Although data are not complete enough to give a precise estimate of the global reduction in opium and coca production, there can be little doubt that it did, in fact, decrease.

Production of the other illicit drugs is more difficult to track, and data on drug use are also limited. But surveys of users in the world's biggest markets for cannabis, cocaine and opiates suggest these markets are shrinking. According to recent surveys of young people in Western Europe, North America and Oceania, cannabis use appears to be declining in these regions. Data from the world's biggest cocaine consuming region, North America, show a decrease, and the European market appears to be stabilizing. Reports from traditional opium-using countries in South-East Asia also suggest the use of this drug may be declining there. Heroin use in Western Europe appears to be stable.

In contrast, there are several indications that the global problem with amphetamine-type stimulants (ATS) is worsening. Global seizures are increasing, and ATS are being made in a growing number of countries, with diversifying locations and manufacture techniques. Close to 30% of global seizures in 2007 were made in the Near and Middle East, where amphetamine use may also be significant. Methamphetamine precursors are increasingly being trafficked to Central and South America to manufacture ATS for the North American market, and local use also appears to be going up. The size of the ATS market is large, and likely still growing in East Asia. Data on ATS are particularly problematic, however, and UNODC is making a concerted effort to improve monitoring of trends in this area.

Of course, all these markets are clandestine, and tracking changes requires the use of a variety of estimation techniques. Data are sparse, particularly in the developing world, and the level of uncertainty in many matters is high. For the first time, this year's *World Drug Report* is explicit about the level of uncertainty, presenting ranges rather than point estimates. This shift complicates comparison of this year's estimates with estimates from previous editions of the *World Drug Report*, but it is an essential step forward in presenting accurate estimates.[1]

The level of uncertainty is smallest concerning the cultivation of coca and opium poppy, where scientific crop surveys have been made in the handful of countries that host the bulk of production. Scientific crop yield studies have also been done, but there is less certainty around the production of these drugs than the cultivation of drug crops. Since synthetic drugs and cannabis can be produced almost anywhere in the world, less is known about their production. Trafficking patterns are reflected by seizure data, a mixed indicator that reflects both the underlying flow and enforcement action against it. Data on drug use comes from surveys and treatment information, but a limited number of countries collect this information. The level of uncertainty about drug use is not uniform, either across drug types or across regions. For example, there is less certainty concerning estimates of past-year ATS and cannabis users than there is around users of opiates and cocaine; more is known about drug use in Europe and the Americas than in Africa and parts of Asia.

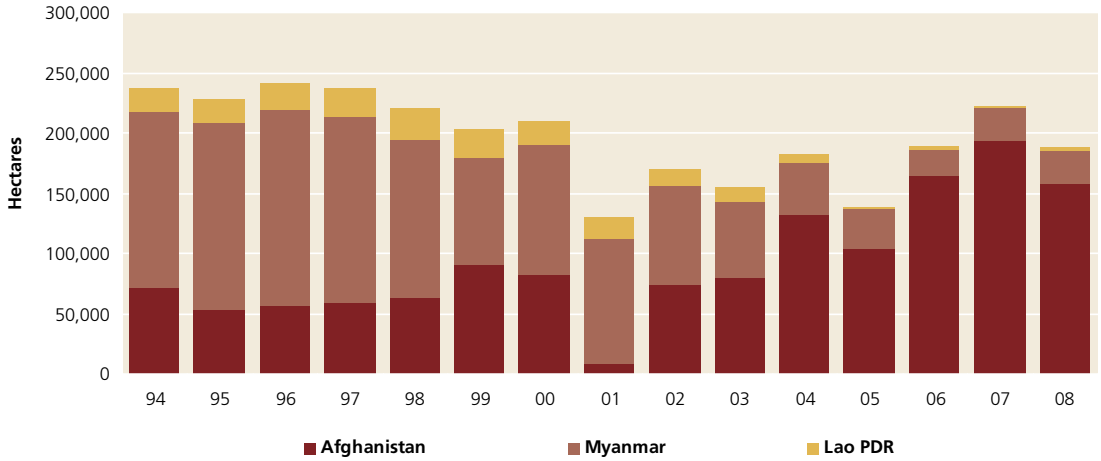
Global trends in drug production

Opiates

The total area under opium poppy cultivation in the major cultivating countries decreased to 189,000 hectares (ha) in 2008. This 16% decrease over the past year

1 At the fifty-second session of the Commission on Narcotic Drugs, a High-Level Segment issued a *Political Declaration and Plan of Action on International Cooperation towards an Integrated and Balanced Strategy to Counter the World Drug Problem*, asserting that policy must be evidence-based, and that sound data are crucial. Altough drug data quality has improved over the last decade, there remain large gaps in the data. Member States adopted a resolution on improving data collection, reporting and analysis and asked UNODC to review data collection tools and reporting systems. This will include holding intergovernmental expert consultations and proposing a revised set of survey instruments for consideration by the Commission in March 2010. For more detail on this resolution, and on the importance of high quality data, please see the Special Features section.

Opium poppy cultivation in the major cultivating countries (ha), 1994-2008



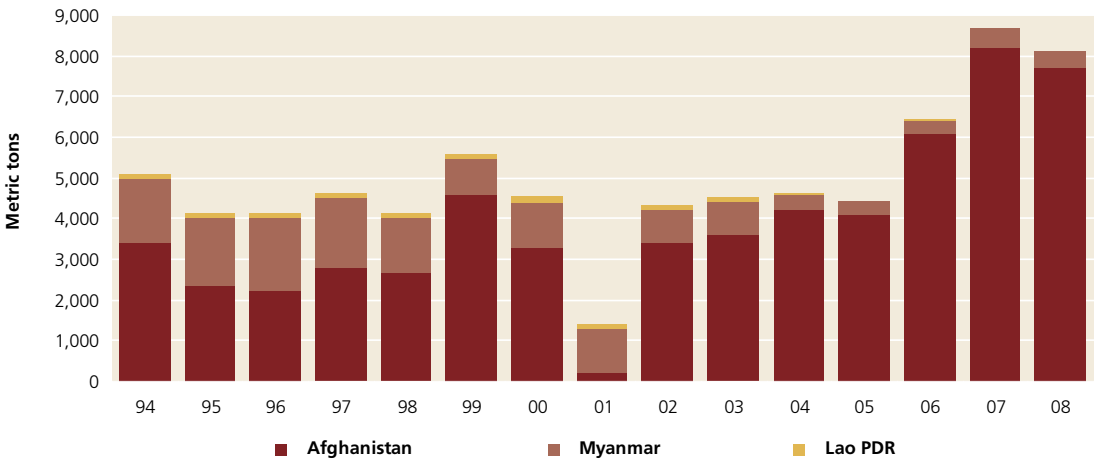
was mainly due to a large decrease in Afghanistan. The level of cultivation in Myanmar and Lao People's Democratic Republic was approximately the same as in 2007. Total potential opium production in the major illicit opium poppy cultivating countries has thus decreased from the previous year.

In Afghanistan, opium poppy cultivation continued to be concentrated mainly in the southern provinces, while more provinces in the centre and north of the country became poppy-free. Two thirds of the area under opium poppy cultivation in 2008 – more than 100,000 ha - were located in the southern province of Hilmand alone. The decline in cultivation occurred despite a sharp decline in opium poppy eradication, from 19,047 ha in 2007 to 5,480 ha in 2008.

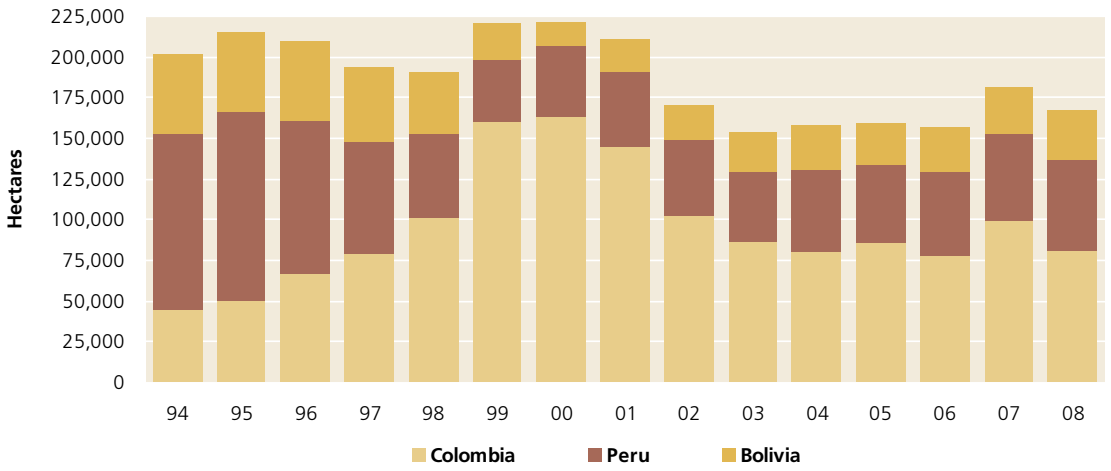
Myanmar reported opium poppy cultivation of 28,500 ha. As in the past, cultivation of opium poppy was heavily concentrated in the Shan State in the east of the country. In Lao People's Democratic Republic, a low level of opium poppy cultivation was found in the northern provinces. In Pakistan, about 2,000 ha of opium poppy were cultivated in the border area with Afghanistan, about the same level of cultivation reported over the past five years.

Opium yields in Afghanistan remained high in 2008.

Opium production in the major cultivating countries (mt), 1994-2008



Global coca bush cultivation (ha), 1994-2008

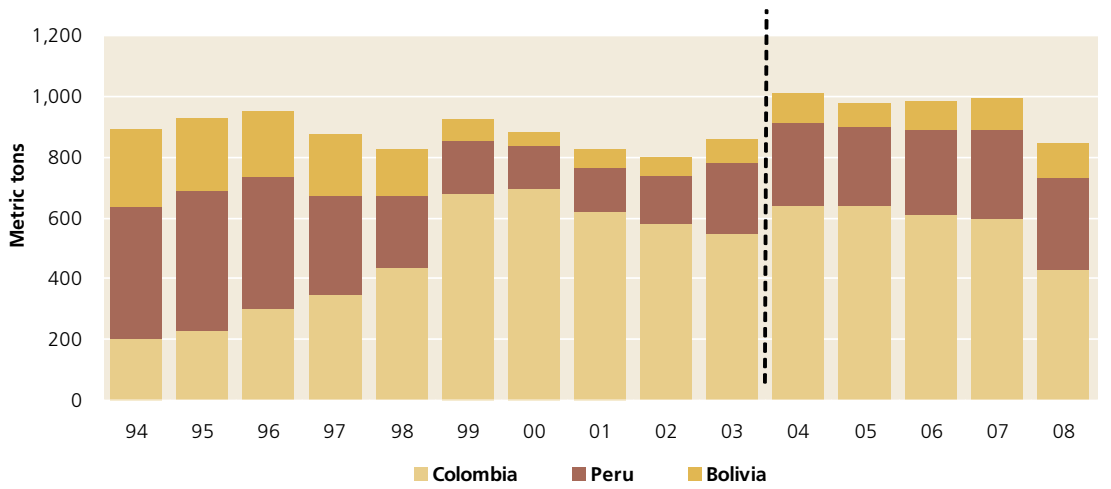


The potential opium production was estimated at 7,700 mt (range 6,330 to 9,308 mt). Some 60% of this is believed to be converted into morphine and heroin within the country. The amount of morphine and heroin produced in Afghanistan available for export was estimated at 630 mt (range 519 to 774 mt). Almost 40% of the total production was exported as opium.

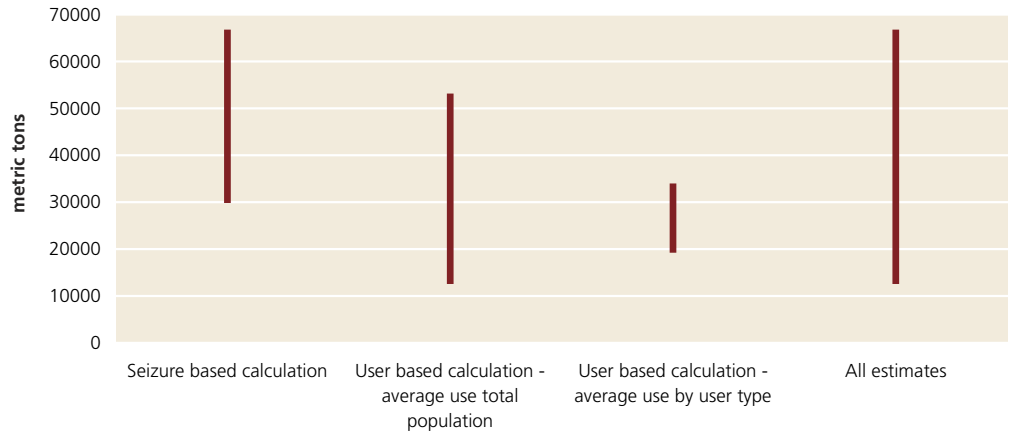
Cocaine

Despite small increases in the Plurinational State of Bolivia (6%) and Peru (4%), the total area under coca cultivation decreased by 8% in 2008, due to a significant decrease in Colombia (18%). The total area under coca cultivation fell to 167,600 ha, close to the average level of coca cultivation between 2002 and 2008, and well below the levels reached in the 1990s. In spite of this year's decrease, Colombia remained the world's largest cultivator of coca bush, with 81,000 ha, followed by Peru (56,100 ha) and Bolivia (30,500 ha). Estimated global cocaine production decreased by 15% from 994 metric tons (mt) in 2007 to 845 mt in 2008. This decrease is due to a strong reduction in cocaine production in Colombia (28%), which was not offset by increases in Bolivia and Peru.

Global cocaine production (mt), 1994-2008



Ranges of global estimates of cannabis herb production by methodology



Cannabis

Estimating the global area under cannabis is considerably more complicated, given that it is grown in most countries in the world and can be produced indoors or outdoors. The total estimated area for outdoor production of cannabis in 2008 ranges from 200,000 ha to 642,000 ha. The total cannabis herb production is estimated to range from 13,300 mt to 66,100 mt, and for cannabis resin, the estimated production range is 2,200 mt to 9,900 mt. Due to high levels of uncertainty in estimating cultivation, it is not possible to produce more precise data, as is done for opiates and cocaine.

ATS

Like cannabis, amphetamine-type stimulants (ATS) can be produced virtually anywhere at relatively low cost. Since 1990, ATS manufacture has been reported in more than 60 countries worldwide, with more being added each year. In 2007, UNODC estimated between 230 and 640 mt of *amphetamines-group*[2] were manufactured; *ecstasy-group*[3] manufacture was estimated to be between 72 and 137 mt.

Shifts in the location of production–often from developed to developing countries–illustrate the way criminal organizations are able to make use of more vulnerable countries. Additionally, as interest from transnational organized crime groups grows, operations of previously unimaginable size and sophistication continue to emerge.

2 The amphetamines-group substances includes predominately methamphetamine and amphetamine, but also includes non-specified amphetamines-group (for example, tablets sold as Captagon, methcathinone, fenetylline, methylphenidate and others), however it excludes substances purportedly of the ecstasy-group of substances

3 The ecstasy-group substances include predominately MDMA, with MDA and MDEA/MDE. However, limited forensic capacity by Member States often leads to confusion about the actual content of tablets believed to be "ecstasy" (MDMA).

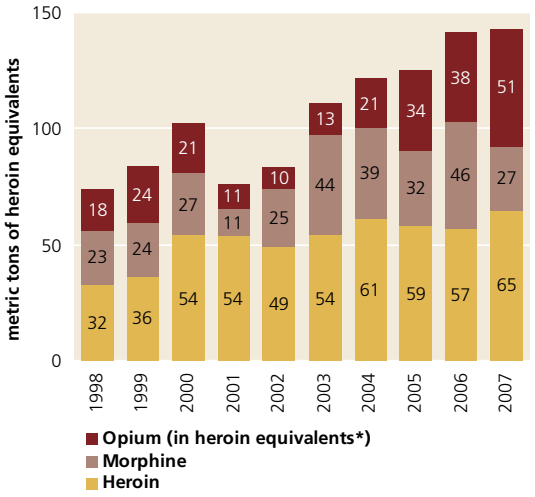
Global trends in drug trafficking

Opiates

In 2007, seizures of opium and heroin grew 33% and 14%, respectively. This increase reflects the sustained high levels of opium production in Afghanistan, and may also include some of the accumulated stocks from 2005, when global opium production exceeded global consumption. Morphine seizures, however, declined by 41%. Overall opiate seizures remained stable in 2007 though at a higher level, having almost doubled since 1998.

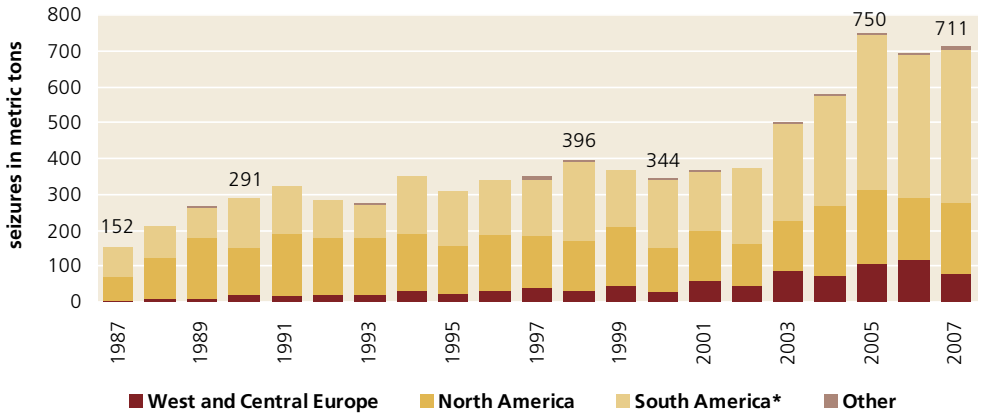
Global opiate seizures, expressed in heroin equivalents*, by substance, 1998-2007

* based on a conversion rate of 10 kilograms of opium for 1 kg of morphine or 1 kg of heroin.
Source: UNODC, Annual reports Questionnaire Data / DELTA.



Global cocaine seizures, 1987-2007

* including Caribbean and Central America.
Source: UNODC, Annual Reports Questionnaire Data / DELTA.



Cocaine

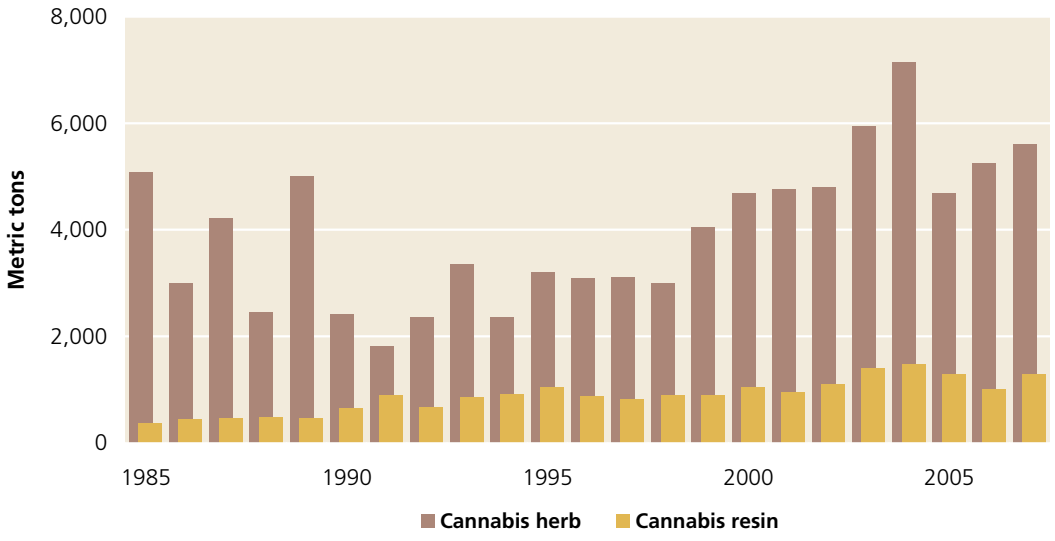
Following five years of expansion, the quantity of cocaine seized fell in 2006 and remained at the lower level in 2007 (5% over the 2005-07 period). This is consistent with a leveling off of production. In 2008, a significant decline in trafficking towards North America, the world's largest cocaine consumer market, was seen. This was reflected in rapidly rising prices and falling purity levels. The United Kingdom also reported falling cocaine purity levels in 2008.

Cannabis

Total cannabis herb seizures amounted to 5,557 mt in 2007, an increase of about 7% from the previous year. Cannabis resin seizures increased by some 29% to 1,300 mt. In addition, small quantities of cannabis oil were seized (equivalent to 418 kg) in 2007. As in 2006, the majority of cannabis herb seizures in 2007 were reported from Mexico (39% of the world total) and the USA (26%). Most of the increase in cannabis resin seizures was due to a strong increase in West and Central Europe, where seizures increased by 33% compared to 2006.

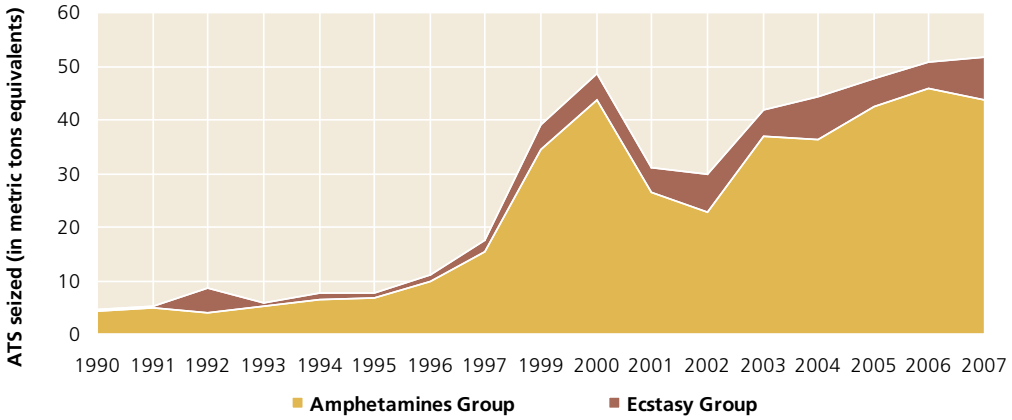
Cannabis herb and resin seizures (mt), 1985-2007

Source: UNODC, Annual Reports Questionnaire / DELTA



Global seizures of amphetamine-type stimulants (ATS), 1990 - 2007

Source: UNODC, Annual Report Questionnaire Data/DELTA; UNODC Drug Information Network for Asia and the Pacific (DAINAP); Government reports; World Customs Organization (WCO), *Customs and Drugs Report* 2007 (Brussels, 2008) and previous years.



ATS

Global seizures of ATS have continued to increase, totalling nearly 52 mt in 2007, surpassing their 2000 peak by more than 3 mt.[4] The amphetamines-group dominates ATS seizures, accounting for 84% of all seizures by volume, with methamphetamine making up the largest part. The year 2007 also saw a dramatic jump in ecstasy-group seizures (16% of all ATS seized); significant increases were noted in several large markets. Trafficking in ATS substances is most commonly intraregional, thus crossing fewer international borders, but precursor chemicals from which ATS materials are made continue to be trafficked throughout the world. They are often diverted from licit manufacture in South, East and South-East Asia.

Global trends in drug consumption

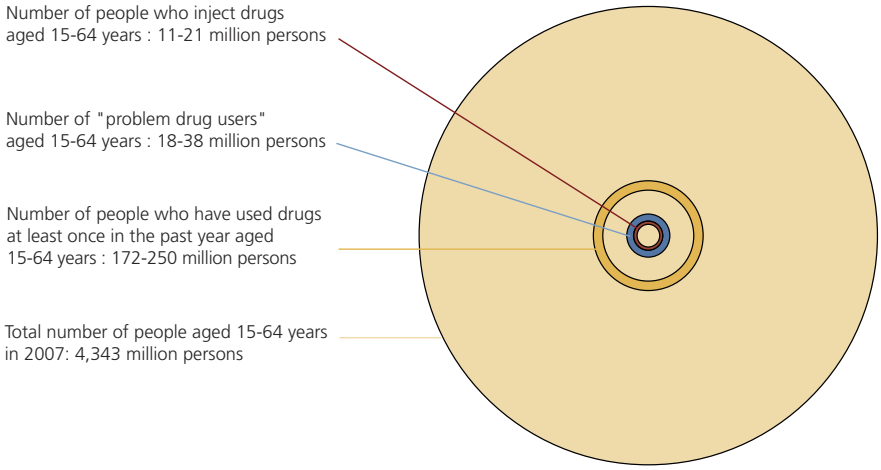
UNODC estimates that between 172 and 250 million persons used illicit drugs at least once in the past year in 2007.[5] But these large figures include many casual consumers who may have tried drugs only once in the whole year. It is important, therefore, to also have estimates of the number of people who are heavy or *"problematic" drug users*. This group consumes most of the drugs used each year; they are very likely to be dependent upon drugs, would benefit from treatment, and many of the impacts upon public health and public order are likely to be affected by their levels of use. Estimates made by UNODC suggest that there were between 18 and 38 million problem drug users aged 15-64 years in 2007.

Different drugs pose different problems for different regions. For example, in Africa and Oceania, more people presented for treatment due to problems with cannabis than any other drug (63% in Africa; 47% in Australia and New Zealand). In contrast, opiates were the primary drug treated in Asia and Europe (65% and 60%, respectively). Cocaine was more prominent in North America (34%) and South America (52%) than in other regions; and ATS were more prominent in Asia (18%), North America (18%) and Oceania (20%). Cannabis is playing an increasingly large role in drug treatment in Europe, South America and Oceania since the late 1990s; and ATS use now comprises a greater share of drug treatment in North and South America than in the past. Many Member States are working to expand their responses to dependent drug use among their citizens; UNODC and WHO have recently begun joint programmatic work to increase drug treatment quality and capacity around the globe.

4 To standardize, seizures reported in kilograms, litres and dose/units/pills/tablets are transformed into kg equivalents: a dose of "ecstasy" was assumed to contain on average 100 mg of psychoactive ingredient (MDMA); a dose of amphetamine/methamphetamine was assumed to contain 30 mg of active ingredient; a litre was assumed to equal a kilogram.

5 For further details on the methods used to make these estimates please see the Special Features and Methodology sections below.

Illicit drug use at the global level



Opiates

The number of people who used opiates at least once in 2007 is estimated at between 15 and 21 million people at the global level.[6] More than half of the world's opiate-using population is thought to live in Asia. The highest levels of use (in terms of the proportion of the population aged 15-64 years) are found along the main drug trafficking routes close to Afghanistan. Opiates remain the world's main problem drug in terms of treatment. Europe has the largest opiates market in economic terms, and altough use appears to be stable in many Western European countries, increases have been reported in Eastern Europe.

Cocaine

The total number of people who used cocaine at least once in 2007 is estimated to range between 16 and 21 million. The largest market remains North America, followed by West and Central Europe and South America. Significant declines in cocaine use were reported in North America, notably from the USA, which in absolute numbers is still the world's largest cocaine market. Cocaine was used at least once in the past year by some 5.7 million people in the USA in 2007. Following strong increases in recent years, a number of surveys in West European countries showed the first signs of a stabilization, whereas cocaine use still appears to be increasing in South America. Some African countries, notably in Western and Southern Africa, appear to show rising levels of cocaine use, although data are sparse.

Cannabis

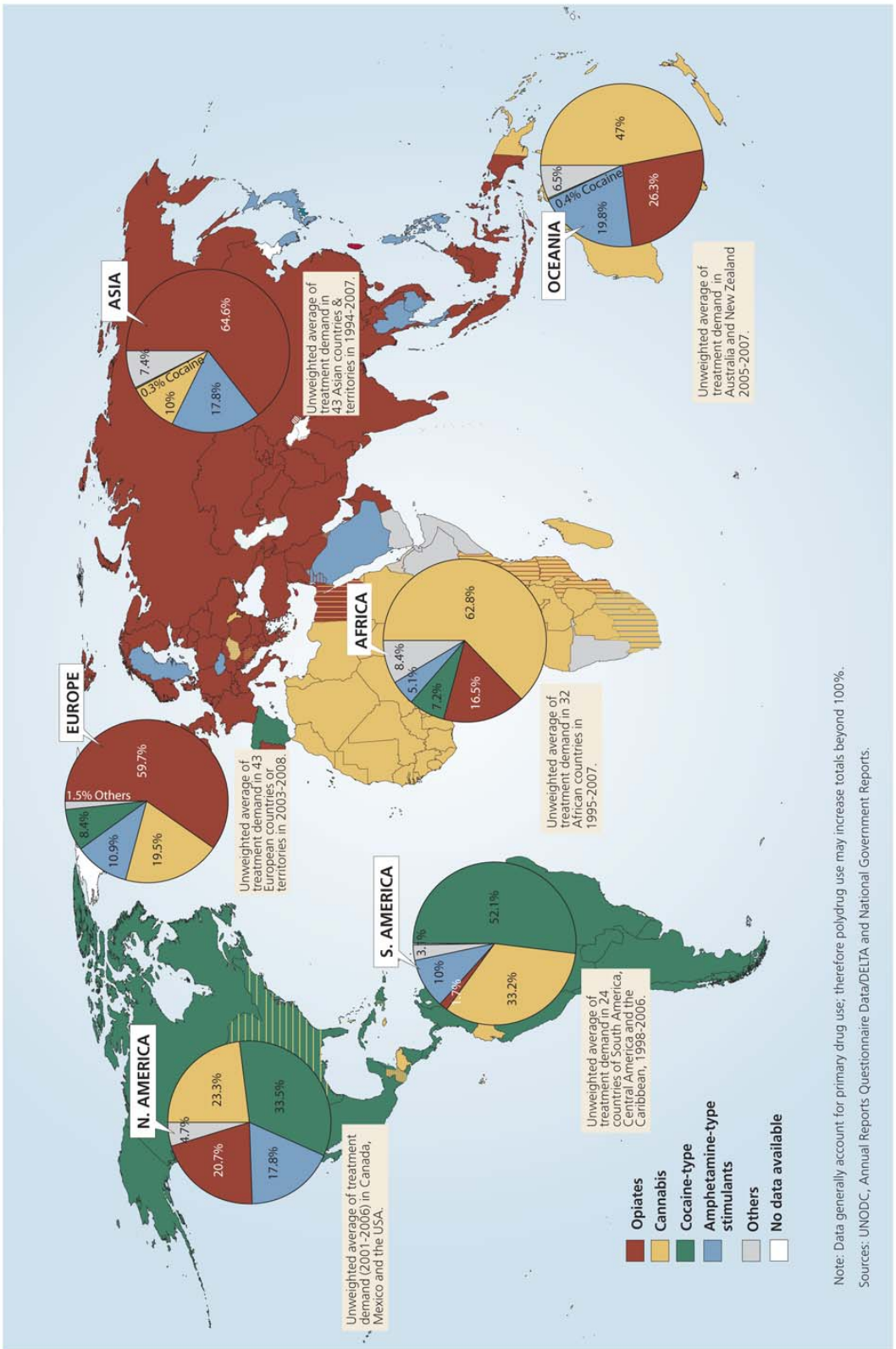
The global number of people who used cannabis at least once in 2007 is estimated to be between 143 and 190 million persons. The highest levels of use remain in the established markets of North America and Western Europe, although there are signs from recent studies that the levels of use are declining in developed countries, particularly among young people.

ATS

UNODC estimates that between 16 and 51 million people aged 15-64 used amphetamines-group substances at least once in 2007; the number who used ecstasy-group drugs at least once is estimated at between 12 and 24 million worldwide. The width of these ranges is far greater than for cocaine and heroin, given the high level of uncertainty in relation to this drug group in terms of both use and production. Amphetamines-group users in East and South-East Asia primarily consume methamphetamine. Tablets sold as Captagon often contain amphetamine, and are used throughout the Near and Middle East. In Europe, users primarily consume amphetamine, whereas about half of stimulant users in North America use methamphetamine.

6 The lack of robust data on the levels of drug use, particularly in large countries such as China, is a huge impediment to an accurate understanding of the size of the population of drug users. When direct estimates are only available for a comparatively small proportion of a region's population, the ranges of estimated drug users in that region are obviously large. Subregional and regional estimates were only made where direct estimates were published for at least two countries covering at least 20% of the region's or subregion's population aged 15-64 years. In estimating ranges for countries with no published estimate, estimates from other countries in the subregion/region were applied. Please see the Methodology and Special Features sections below for more detail.

Main problem drugs (as reflected in treatment provided), 2007 (or latest year available)



Note: Data generally account for primary drug use; therefore polydrug use may increase totals beyond 100%.

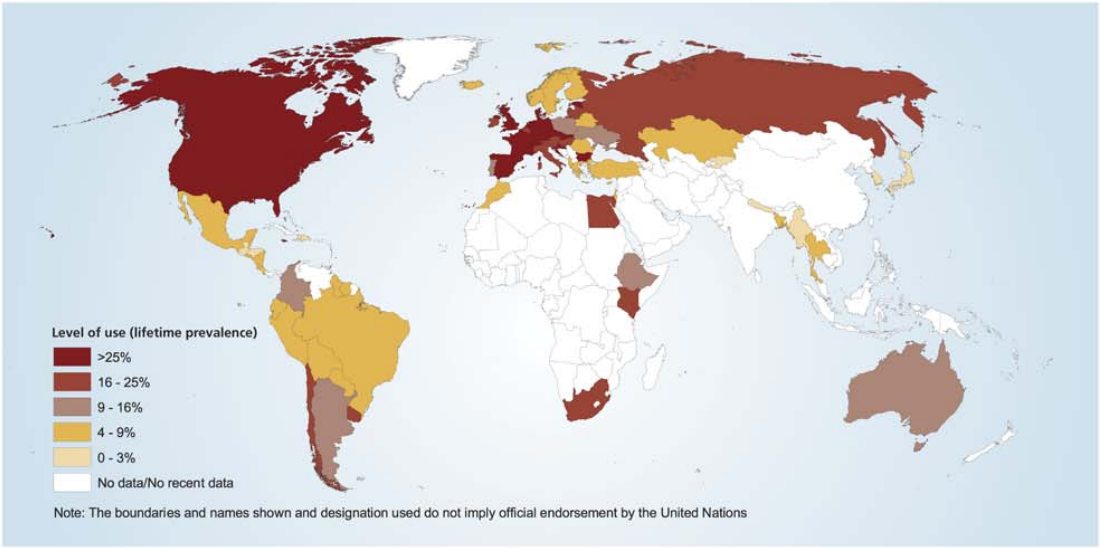
Sources: UNODC, Annual Reports Questionnaire Data/DELTA and National Government Reports.

Estimated number of illicit drug users in the past year aged 15-64 years, by region and subregion: 2007

	Cannabis users in the past year		Opiate users in the past year		Cocaine users in the past year		Amphetamines-group users in the past year		Ecstasy users in the past year	
Region/ subregion	**Number (lower)**	**Number (upper)**	**Number (lower)**	**Number (upper)**	**Number (lower)**	**Number (upper)**	**Number (lower)**	**Number (upper)**	**Number (lower)**	**Number (upper)**
Africa	**28,850,000 to 56,390,000**		**1,000,000 to 2,780,000**		**1,150,000 to 3,640,000**		**1,390,000 to 4,090,000**		**340,000 to 1,870,000**	
North Africa	3,670,000 to 9,320,000		120,000 to 490,000		30,000 to 50,000		240,000 to 510,000		*estimate cannot be calculated*	
West and Central Africa	16,110,000 to 27,080,000		550,000 to 650,000		750,000 to 1,320,000		*estimate cannot be calculated*		*estimate cannot be calculated*	
Eastern Africa	4,490,000 to 9,030,000		100,000 to 1,330,000		*estimate cannot be calculated*		*estimate cannot be calculated*		*estimate cannot be calculated*	
Southern Africa	4,570,000 to 10,950,000		230,000 to 310,000		300,000 to 820,000		210,000 to 650,000		210,000 to 400,000	
Americas	**41,450,000 to 42,080,000**		**2,190,000 to 2,320,000**		**9,410,000 to 9,570,000**		**5,650,000 to 5,780,000**		**3,130,000 to 3,220,000**	
North America	31,260,000 to 31,260,000		1,310,000 to 1,360,000		6,870,000 to 6,870,000		3,760,000 to 3,760,000		2,560,000 to 2,560,000	
Central America	580,000 to 580,000		20,000 to 30,000		120,000 to 140,000		310,000 to 310,000		20,000 to 30,000	
The Caribbean	1,110,000 to 1,730,000		60,000 to 90,000		170,000 to 250,000		120,000 to 250,000		30,000 to 130,000	
South America	8,500,000 to 8,510,000		800,000 to 840,000		2,250,000 to 2,310,000		1,450,000 to 1,460,000		510,000 to 510,000	
Asia	**40,930,000 to 59,570,000**		**8,440,000 to 11,890,000**		**400,000 to 2,560,000**		**5,780,000 to 37,040,000**		**3,550,000 to 13,580,000**	
East/ South-East Asia	4,110,000 to 19,860,000		2,800,000 to 4,970,000		310,000 to 990,000		4,600,000 to 20,560,000		2,250,000 to 5,950,000	
South Asia	27,490,000 to 27,490,000		3,620,000 to 3,660,000		*estimate cannot be calculated*		*estimate cannot be calculated*		*estimate cannot be calculated*	
Central Asia	1,890,000 to 2,020,000		340,000 to 340,000		*estimate cannot be calculated*		*estimate cannot be calculated*		*estimate cannot be calculated*	
Near and Middle East	7,440,000 to 10,200,000		1,680,000 to 2,910,000		*estimate cannot be calculated*		*estimate cannot be calculated*		*estimate cannot be calculated*	
Europe	**28,890,000 to 29,660,000**		**3,440,000 to 4,050,000**		**4,330,000 to 4,600,000**		**2,430,000 to 3,070,000**		**3,750,000 to 3,960,000**	
West/ Central Europe	20,810,000 to 20,940,000		1,230,000 to 1,520,000		3,870,000 to 3,880,000		1,590,000 to 1,690,000		2,110,000 to 2,120,000	
East/South-East Europe	8,080,000 to 8,720,000		2,210,000 to 2,530,000		460,000 to 720,000		840,000 to 1,380,000		1,640,000 to 1,830,000	
Oceania	**2,460,000 to 2,570,000**		**90,000 to 90,000**		**340,000 to 390,000**		**570,000 to 590,000**		**810,000 to 880,000**	
GLOBAL ESTIMATE	**142,580,000 to 190,270,000**		**15,160,000 to 21,130,000**		**15,630,000 to 20,760,000**		**15,820,000 to 50,570,000**		**11,580,000 to 23,510,000**	

Prevalence (%) of lifetime cannabis use among young people*

This map contains data from school surveys of young people. The age groups (or school years) included for the estimates can vary slightly from country to country, so data are not directly comparable. For detail on each of the estimates included in this map, please consult the Statistical Annex (3.6).



Drug use among young people

Analysing drug use among young people matters for several key reasons. First, most people start to use drugs during their youth and it is among young people that drug prevention activities are best targeted. Second, trends in the use of illicit drugs among young people may indicate shifts in drug markets, since young people may react to changes in drug availability or social perceptions about drug use more than older people. Third, starting drug use at an early age has been linked to later negative health and social outcomes. This year, a review of studies of drug use among young people across the world was carried out, and features in this report[7].

Injecting drug use

Injecting drug use has been documented in 148 countries of the world, which account for 95% of the world's population[8], but the prevalence of this behaviour varies considerably. It is estimated that between 11 and 21 million people worldwide inject drugs. China, the USA, the Russian Federation and Brazil are estimated to have the largest populations of injecting drug users (IDUs) and together account for 45% of the total estimated worldwide population of IDUs.

Injecting drug use is responsible for an increasing proportion of HIV infections in many parts of the world, including countries in Eastern Europe, South America and East and South-East Asia. HIV infection among people who inject drugs has been reported in 120 countries, and varies dramatically within and between countries. It is estimated that between 0.8 and 6.6 million people who inject drugs worldwide are infected with HIV. Regions with the largest numbers and highest concentration of HIV-positive IDUs include Eastern Europe, East and South-East Asia and Latin America. In Eastern Europe and Central Asia, IDUs make up a sizeable proportion of the total number of people living with HIV.

Drug-related crime

Drugs and crime are inextricably linked, but the relationship is not straightforward. Persons may commit crimes while under the influence of drugs; they may also do so to fund their drug use. In addition, most countries prohibit the cultivation, manufacture, possession, use, purchase, sale, distribution, import or export of drugs. Data on 'direct' offences are most readily available, and they can be grouped into those offences related to 'personal use', and more serious offences related to drug trafficking. These data are important, and reflect both the extent of drug activity, and the extent of drug enforcement action.[9]

Confronting unintended consequences: Drug control and the criminal black market

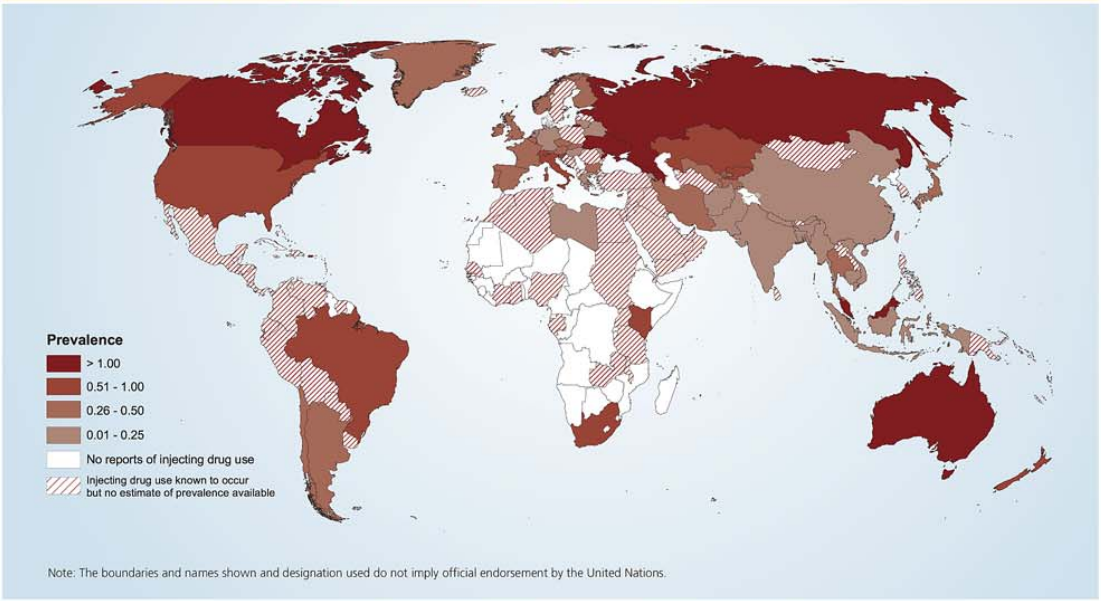
The system of international drug control has produced several unintended consequences, the most formidable of which is the creation of a lucrative black market for drugs and the violence and corruption it generates. In

7 Please see the Special Features section for more detail on this review

8 This information was compiled, reviewed and published by the *Reference Group to the United Nations on HIV and injecting drug use* and published in The Lancet in September 2008. Further information is available at: www.iduRefGroup.com

9 Please see the Special Features section for more detail on this subject.

Prevalence (%) of injecting drug use among those aged 15-64 years



Note: The boundaries and names shown and designation used do not imply official endorsement by the United Nations.

some cases, the violence has become so extreme that there have been calls for the system to be abandoned. But, by keeping controlled substances illegal and scarce, the system protects millions from the adverse effects of drug abuse and addiction, particularly in the developing world. It is therefore incumbent on the international community to both control drugs and reduce the violence and corruption associated with the black market.

Drug control has long been treated as a law enforcement issue, and the approach has traditionally been simple: arrest drug law offenders and seize their drugs. The passage of the 1988 Convention expanded the tools available to tackle drug markets, establishing mechanisms for dealing with precursors control, asset forfeiture, money laundering, and extradition. Aside from making better use of these mechanisms, much more could be done to make drug law enforcement more effective and efficient, while reducing corruption and violence.

The purpose of arrest and incarceration is to deter, incapacitate, and rehabilitate drug offenders. For certain classes of offenders, it accomplishes none of these objectives well, and when applied indiscriminately, wastes scarce resources. In particular, it is rarely effective to imprison drug users. Casual users can be deterred by far less harsh sanctions; addicts must be helped to end their habit, through treatment or contingent release. There are even encouraging interventions aimed at removing entire contingents of street dealers without the necessity of mass arrest. Incarceration should be particularly aimed at violent offenders, effectively favouring more peaceful markets.

This is not to say that drug use should be ignored. The vast bulk of the drug supply is consumed by a small share of the users: the addicts, or problem drug users. Treating this element of the drug market though intensive interventions would drastically reduce profitability, reducing incentives for traffickers. Fortunately, it appears that a large share of the world's drug addicts are located in well resourced countries with the capacity to do something about the issue.

It is also essential to clean up those neglected spatial areas that generate drug markets. While many in these areas have little to lose and thus are difficult to deter, there are always key players with a financial interest in the area. By compelling those truly in charge to take responsibility, it may be possible to bring these free-for-all zones back into the mainstream, on a neighbourhood or even a national level. This would have the effect of closing open drug markets and limiting their spread. It would also take the markets out of the hands of street gangs, one of the groups most involved in market-related violence.

Beyond making law enforcement more effective, other agencies need to be involved in tackling drug problems strategically. These strategies need to target each drug flow and the impact they have on specific locations. Focus should be placed on shrinking the markets, not just disabling specific individuals or groups. These interventions need to be coordinated internationally, to avoid displacement effects. But displacement itself can be used strategically to guide markets in ways that produce less crime and corruption.

.

Special features

1. Improving the quality of drug data

In the last decade, there have been substantial improvements in the quality and availability of illicit drug data, but a number of challenges remain. The use and production of illicit drugs affect a population which is difficult to reach. In many countries, a full account of the extent of use and production of illicit drugs has not yet been made. Accurately measuring the level of drug use in a country, and monitoring trends across time, requires technical and financial resources, as well as political will. In many countries, at least one of these three components is still missing. The result is that for some regions, and for some types of drugs, particularly ATS, data are very scarce.

The cultivation of opium and cocaine is concentrated in few countries. Because of remote sensing techniques, this cultivation can be monitored with considerable accuracy. Estimates of the production of opium and cocaine, however, require information on the yield of the cultivated crop, which is measured with less certainty. UNODC is continuing its work to improve estimates of these yields, but the lack of access to some cultivation areas and continuous meteorological and agronomical changes, all pose considerable challenges.

There is a high degree of uncertainty in estimating cultivation and production of cannabis, and manufacture of ATS. These two drugs can be produced virtually anywhere; this makes systematic and comprehensive monitoring difficult. Considering the data currently available, global estimates of cannabis cultivation and ATS manufacture have been made on the basis of information on the number of users (and their estimated annual consumption), and seizures.

Considering the level of confidence in data on the production and use of illicit drugs, it is not always possible to provide precise information on levels and trends. In order to produce reliable and comparable national, regional and global estimates, a number of assumptions and adjustments often need to be made. This year the *Report* explicitly addresses the question of uncertainty, and an attempt has been made to make the statistics more transparent. Country-level estimates of drug use are, for the first time in this *Report*, presented in ranges where the level of confidence is not sufficient to support point estimates. Additional information is also provided on the source of the data and on the adjustments made to the original data to produce the estimate.

Regional and global estimates of drug use, as well as the production of ATS and cannabis, are also presented as ranges. The level of confidence in the different ranges, in terms of their 'width', obviously reflects the level of uncertainty that surrounds the figures.

1.1 Decisions at the fifty-second session of the Commission on Narcotic Drugs

The fifty-second session of the Commission on Narcotic Drugs, held in Vienna in March 2009, included a High-Level Segment which reviewed international drug control in the decade since UNGASS in 1998. The High-Level Segment adopted a *Political Declaration and Plan of Action on International Cooperation towards an Integrated and Balanced Strategy to Counter the World Drug Problem*. Throughout the session, there was much discussion about the importance of evidence as a basis for drug policy. The Political Declaration stated specifically that policy must be evidence-based, and that sound data are crucial for planning and evaluating interventions.

States Members of the United Nations also debated the challenges of drug data collection. Over the past decade, there have been considerable improvements in many countries in the collection and analysis of drug data on both supply and demand. In regions where concerted efforts have been made to collect, synthesize and reflect upon drug data (for example, North America, Oceania, Central and Western Europe, Latin America and to some extent East and South-East Asia), the capacity to evaluate trends has improved. In many countries, however, progress in developing drug information systems has been limited. There are also comparatively few countries that conduct studies to estimate the prevalence of illicit drug use. For example, only 65 countries have an estimate in the past ten years of the prevalence of ATS use in the general population or among school/university-aged young people. UNODC has made tentative estimates from other data in 31 countries. The remaining Member States, including some very populous countries such as China and India, have no direct estimates of ATS use. This obviously reduces the capacity to make evidence-based decisions about international drug policy.

Acknowledging such gaps, Member States adopted a resolution that focused on improving data collection, reporting and analysis. UNODC was asked to review and improve data collection tools and reporting systems in order to get a more accurate picture of the world drug situation. This will include holding intergovernmental expert consultations to review current data collection tools, and proposing a revised set of survey instruments for consideration by the Commission on Narcotic Drugs in March 2010.

The aim is to develop simpler, more integrated data collection processes, and to increase the capacity of countries to collect and report information on their drug situation. UNODC invites Member States to join in this effort to improve data collection at the national level, and reporting at the global level.

1.2 Making national estimates of the number of drug users

It is challenging to measure accurately how many people use drugs in a given country. Two broad approaches are "direct" survey approaches and "indirect" estimation approaches. No one method is perfect for all drugs or across all countries.

"Direct" methods of estimating drug use prevalence.

General population or "household" surveys. A common way to assess drug use is to conduct surveys of the general population, where people are asked if they have used drugs at least once in the past month, the past year or in their lifetime (generally referred to as 'monthly', 'annual' and 'lifetime' prevalence).

The **benefits** of this approach include the relatively straightforward calculation of prevalence estimates. The approach would generate accurate estimates if (1) a representative population sample was obtained, (2) people honestly disclosed their drug use, and (3) drug users were spread equitably around the country.

The **limitations** of this approach include the typical exclusion of marginalised groups, and the fact that drug use is often geographically concentrated. People may also feel uncomfortable disclosing drug use. These limitations will lead to underestimates of the actual levels of drug use.

School surveys. These take the same approach as general population surveys, whereby school-attending children/young people (typically in high school) are asked about their drug use.

The **benefits and limitations** of this approach are similar to those of the general population surveys, with the additional limitation that young people who have left school are not included. This may be a large proportion in some countries, and it is significant because young people who leave school early are more likely to use drugs than those who remain in school.

"Indirect" methods of estimating drug use prevalence.

These estimates do not rely on "direct" measurements, but use different sources of data to estimate the total population of drug users. One common approach is termed **multiplier methods**. This involves two pieces of data: one source (for example, the number of people who receive drug treatment in a year) is considered with another (for example, the proportion of a sample of drug users who received treatment) and these two are multiplied to estimate the drug-using population.

One **benefit** of this approach is that no expensive and technically challenging field survey is required and it does not require people to admit to drug use. It is preferable, however, to make multiple indirect estimates of drug use to overcome statistical limitations in any one approach of this kind.

1.3 Making regional and global estimates of the number of drug users

Making estimates of the population who uses illicit drugs presents many challenges. The first challenge is that many countries have not done any studies to estimate how many people use drugs. In addition to this, although a variety of methods of estimating the prevalence of illicit drug use may be used, no one method is free of methodological or other biases, which means that country level estimates can never be 100% accurate.

To better reflect the resulting uncertainty, a conscious decision was made to present ranges rather than point estimates in this year's *Report.* Global and regional estimates of the number of people who have used illicit drugs at least once in the past year, as well as estimates of "problem" drug users, are therefore shown as ranges. This shift is an essential step forward in getting more accurate estimates. It does mean, however, that the estimates for this year should not be compared to those from previous editions of the *World Drug Report*. As documented in the following sections of the *Report*, there is less certainty for ATS and cannabis use estimates than there is for opiate and cocaine use. The uncertainty for ATS is particularly marked in Asia, which contains a significant proportion of the world's population. In contrast, in regions such as North America and Western Europe, more is known about drug use levels, and there are smaller ranges in the estimated number of users.

Summary of new methods

The lack of robust data on the levels of drug use, particularly in large countries such as China, are huge impediments to an accurate understanding of the size of the population of drug users. Because of these gaps,

absolute numbers are not provided for regions where estimates of drug use prevalence are not available for every country. Rather, ranges have been presented, which reflect the uncertainty that exists when data are being either extrapolated or imputed.

Larger ranges exist for those regions where there is less certainty about the likely level of drug use – in other words, those regions for which direct estimates are available for a comparatively smaller proportion of the region's population. In contrast, those regions with estimates from most countries have much more precise estimates.

Subregional and regional estimates were only made where direct estimates were published for at least two countries covering at least 20% of the region's or subregion's population aged 15-64 years.

In estimating ranges for countries with no published estimate, estimates from other countries in the subregion/region were applied. This means that wider ranges appear in subregions/regions where there is variance in the levels of drug use across the published country-level estimates. Regions with fewer data – and therefore less certainty – also typically have greater ranges.

2. Trends in drug use among young people: what do we know?

Analysing drug use among young people matters for several key reasons. First, most people start to use drugs during their youth and it is among young people that drug prevention activities are best targeted. Secondly, trends in the use of illicit drugs among young people may indicate shifts in drug markets, since young people usually react to changes in drug availability or social perceptions about drug use more quickly than older people; such use is likely to be occasional drug use. Thirdly, starting drug use at an early age has been linked to negative health and social outcomes in later years.

A review of the most recent data reported to UNODC on drug use among young people across the world found quite marked variation across regions. Among the highest levels across all drug types were reported in North America, Oceania and Western Europe, although there are signs of a decreasing trend in some of the major drugs. Recent data suggest decreases in the level of cannabis use in developed countries. Decreases have also been recorded in cocaine use among young people in North America and some European countries although increases are still visible in many other European countries. There are large data gaps in regions across Asia and Africa, so less is known about drug use among young people there. Where data is available it suggests that levels of use among young people in developing countries remain lower than the ones in developed countries. However the trend for cannabis and cocaine is upwards in the few countries where statistics are available for more than one year. A similar trend can be observed for ecstasy which is still gaining popularity among students in some developing countries, while showing decreasing or stabilizing trends in the most developed countries.

The data presented suggests that drug use patterns are changing among young people. In the United States, cannabis and cocaine, long associated with alternatives to the mainstream, now appear to be less attractive. The same behaviour is gradually spreading in Europe, but has not yet reached Eastern Europe and developing countries where there are still signs of increasing cannabis and cocaine use.

The overall decline in illicit drug use among young people in the United States and in some European countries is an encouraging sign. However, there are a number of published reports, particularly in the US indicating that the abuse of prescription drugs is on the rise among young people[10]. This needs more research, but these reports suggest that young people may be shifting from illicit drugs to pharmaceutical drugs, which may be more easily accessible and socially acceptable.

Data on young people can help to better understand the different use of illicit drugs among male and female populations. In general girls are less likely to use drugs than boys, although the gender disparities are less pronounced than among the adult population. Data for European countries in 2007 show that the proportion of students (aged 15-16 years) who used cannabis in the previous month has large variations between male and female. Gender disparities measured in terms of male to female drug use ratios range from 1.1 in Spain (almost parity) to 3 in Poland. Despite the existence of large differences between boys and girls, there are indications that the gender gap may be narrowing in a few countries and for some types of drugs.[11]

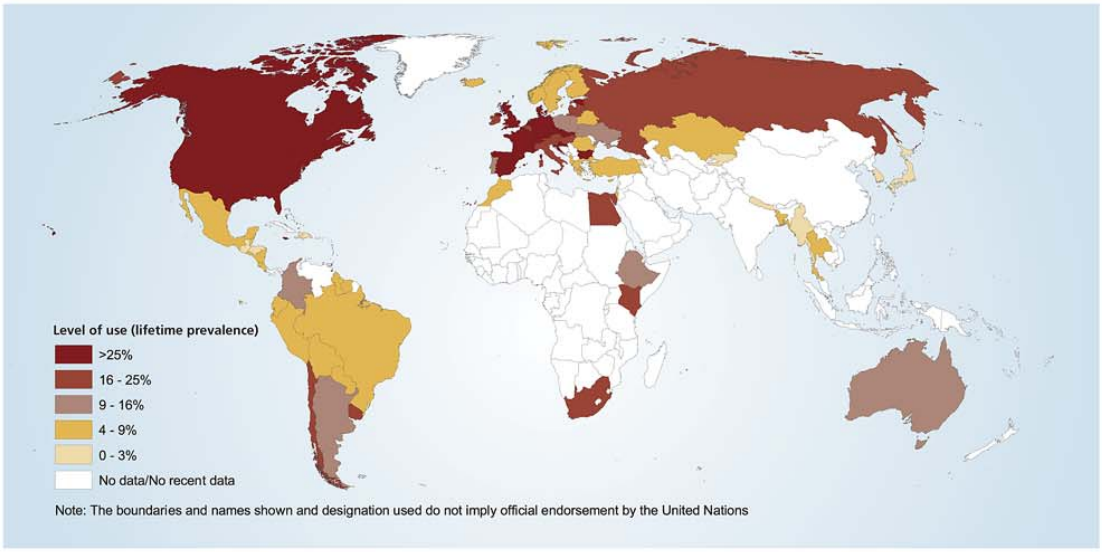
Most of the data on the use of illicit drugs among young people has been collected through school surveys. These surveys are important tools and can be implemented in a relatively cost-effective environment since large numbers of young people are easily accessible and usually ready to participate in the survey. They have also been found to be accurate, if properly implemented. However, they do not capture the situation among out-of-school youth, which may be a significant proportion of youth in less developed countries.

10 Arria AM, Caldeira KM, O'Grady KE, Vincent KB, Johnson EP, Wish ED. Nonmedical use of prescription stimulants among college students: Associations with attention-deficit-hyperactivity disorder and polydrug use. Pharmacotherapy. 2008;28(2):156–169. National Institute on Drug Abuse (NIDA), NIDA Community Drug Alert Bulletin – Prescription Drugs, NIDA website: http://www.nida.nih.gov/PrescripAlert/.

11 EMCDDA, *Annual Report 2006*, selected issues: Gender differences in prevalence and patterns of drug use by type of substance, 2006.

Prevalence (%) of lifetime cannabis use among young people*

This map contains data from school surveys of young people. The age groups (or school years) included for the estimates can vary slightly from country to country, so data are not directly comparable. For detail on each of the estimates included in this map, please consult the Statistical Annex (3.6).



2.1 Cannabis use trends among young people

A significant decline in cannabis use over the last few years was found among high-school students in North America. Annual prevalence of cannabis use among 8th-12th graders in the USA fell by 21% between 1998 and 2008. Between 2006 and 2008, it remained unchanged suggesting a stabilization at lower levels. A moderate decline in cannabis use over the last decade was also reported among high-school students in the province of Ontario, Canada. Despite the decreasing trend, cannabis use among the young generations in the USA remains among the highest in the world. A marked decrease was also observed among young people aged 14-19 in the Australian general population survey. Between 2004 and 2007 the annual prevalence of cannabis use fell from 18% to 13% confirming the decline found in earlier school surveys (from a life time prevalence of 35% in 1996 to 18% in 2005 among 12-17 years old).

In South America, comparable trend data on cannabis use among young people is available for a small number of countries. Where data is available there is indication of a stabilization or an increasing trend. The annual prevalence rate of high-school students increased in Argentina from 3.5% in 2001 to 8.1% in 2007[12] and fluctuated in Chile from 15% in 2001 and 13.4% in 2003 to 15.7% in 2007. Annual prevalence rates[13] for other countries in the region for 2006 show the highest cannabis use among students in Chile (12.7%), followed by Uruguay (8.5%), Colombia (7.1%) Argentina (6.7%) and Brazil (5.1%) . The lowest levels were reported from Bolivia (2.3%) and Peru (2.6%). The use of cannabis among young people remains considerably lower than in the US where high-school students in 2006 (prevalence rate: 22.8%) had almost two or three times the rate of South American students.

Recent data on European students[14] show a decline in the cannabis lifetime prevalence rates among young people during the period 2003 and 2007, following increases over the years 1995-2003. The weighted average of 35 countries and territories participating in 2003 and 2007 surveys declined from 25% in 2003 to 22% in 2007.[15] Thirteen countries and territories showed a sharp decrease (more than three percentage points). These decreases were particularly notable in Western Europe. In most Eastern European countries the use of

12 SEDRONAR, Terzera Encuesta Nacional a Estudiantes de Enseñanza Media, 2007 (and previous years).

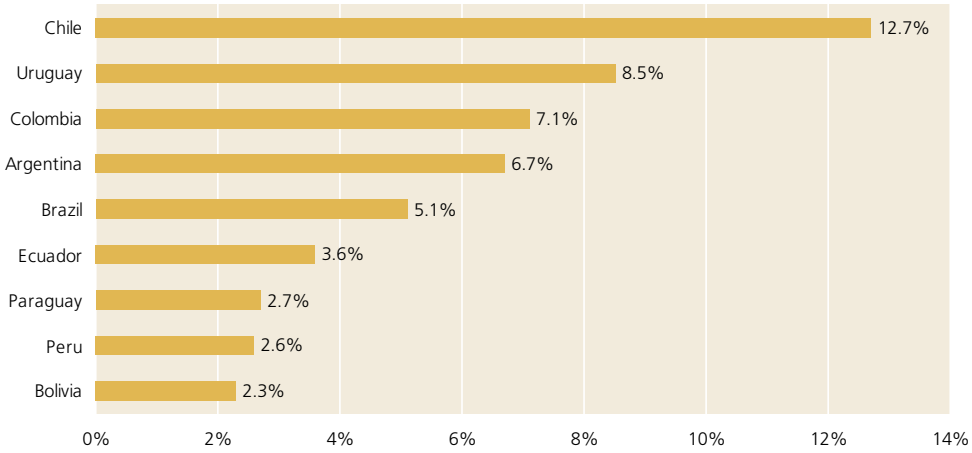
13 Data are based on a comparative study among South American high-school students (8th, 10th and 12th grade), conducted in 2006 under the auspices of UNODC and the Inter-American Drug Abuse Control Commission (CICAD).

14 The Council of Europe undertook in 2007 a major exercise to analyze the drug use of young Europeans as part of the European School Survey Project on Alcohol and other Drugs (ESPAD). The study, investigating the substance use behavior of pupils borne in 1991 (i.e. 15 to 16 year olds), was conducted in 35 European countries (Council of Europe, *The 2007 ESPAD Report, Substance Use Among Students in 35 European countries*). A similar wave of surveys was conducted by the same organization in 2003.

15 The unweighted average of the same countries (as reported by the Council of Europe) fell from 22% in 2003 to 19% in 2007. The unweighted average of all countries participating since 1995 (20 countries) declined from 20% to 17%.

Annual prevalence of cannabis use among high school students (8th, 10th and 12th grade) in selected South American countries, 2006

Source: UNODC, *Jóvenes y drogas en países sudamericanos: un desafío para las políticas públicas,* Sept. 2006.

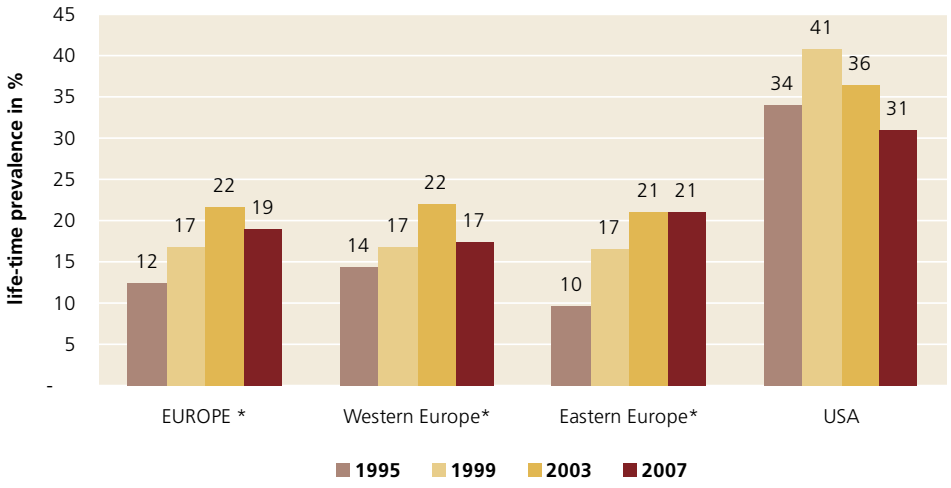


cannabis among students in 2007 saw an increase or a stabilization when compared with 2003.[16] Although the decline in cannabis use among US students was stronger than in Europe, cannabis use continues to be more widespread among US students.

Cannabis use declined among both male and female students (on average by around 3 percentage points) over the 2003-2007 period. In 2007 male pupils still have, on average, higher prevalence rates of cannabis use (22% in 2007) than female students (16%). In all countries, except Monaco and Slovenia, male cannabis use was higher than female cannabis use among 15-16 year old students.

Lifetime prevalence of cannabis use in Europe and the USA

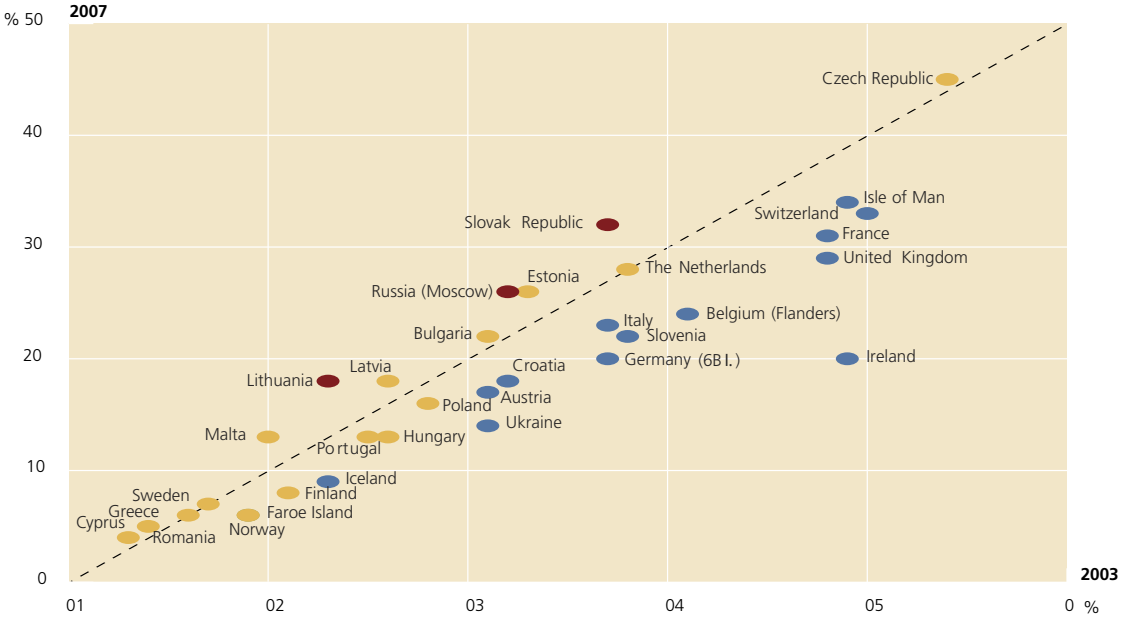
* unweighted average of all participating countries
Source: Council of Europe, The 2007 ESPAD Report, Substance Use Among Students in 35 European countries, Stockholm. February 2009.



16 Similar trends have been observed in the "Health Behavior in School Aged Children"(HBSC) studies conducted in Europe and in North America in 2001/02 and in 2005/06 under the auspices of the WHO.

Changes* between 2003 and 2007 in lifetime use of cannabis among students in Europe, aged 15-16

* Colour code: 'red' indicates clear increases (more than 3 percentage points); 'yellow' indicates largely stable levels and 'blue' indicates clear declines (more than 3 percentage points) in life-time prevalence over the 2003-07 period.
Source: Council of Europe, *The 2007 ESPAD Report, Substance Use Among Students in 35 European countries*, Stockholm. February 2009.

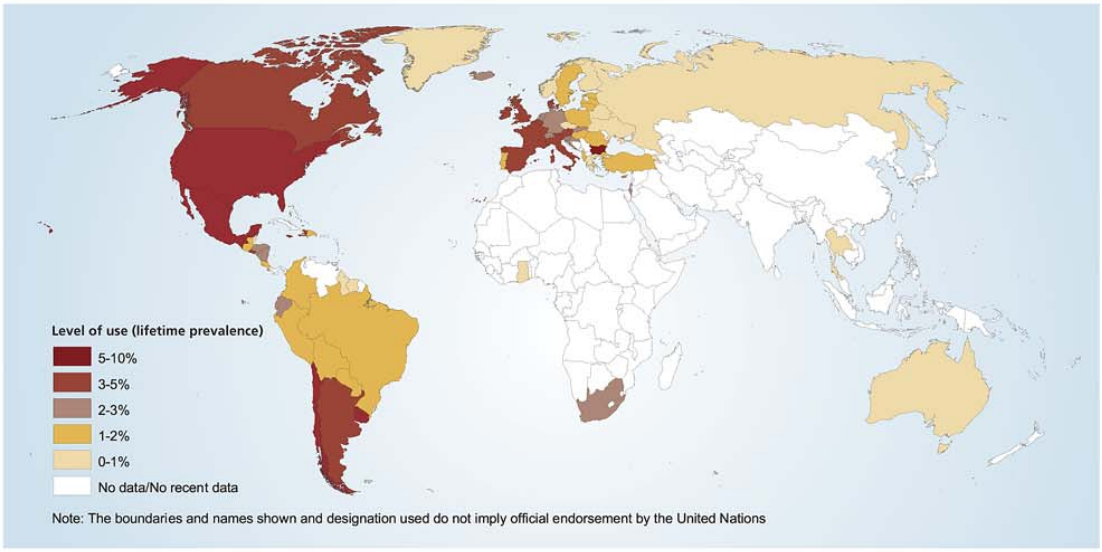


Lifetime prevalence of cannabis use in Europe* among 15-16 year old students – breakdown by gender, 1995-2007

* unweighted average of all participating countries (as reported). Source: Council of Europe, *The 2007 ESPAD Report, Substance Use Among Students in 35 European countries*, Stockholm. February 2009.

Prevalence (%) of lifetime cocaine use among young people*

This map contains data from school surveys of young people. The age groups (or school years) included for the estimates can vary slightly from country to country, so data are not directly comparable. For detail on each of the estimates included in this map, please consult the Statistical Annex (3.6).



2.2 Cocaine use trends among young people

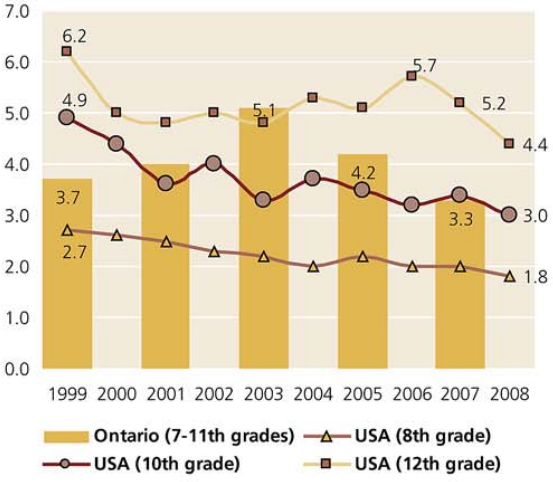
Similar to cannabis, cocaine use among young people continued to decrease in the USA and Canada. In the last decade, annual prevalence of cocaine use among 10th and 12th grade high school students fell in the USA by 40% and 30%. School surveys in Ontario, Canada, showed a decline in the annual prevalence of cocaine use of around 35% between 2003 and 2007.

Comparable data on annual prevalence of cocaine among high school students in South America show a mixed picture. A strong increase can be observed in Argentina (from 1% in 2001 to 2.7% in 2007) while a stabilization can be seen in Chile where the prevalence rate fluctuated around 4% between 2001 and 2007.

The downward trend in cocaine use among students in North America has started to spread to Europe. In Spain, the largest cocaine market in Europe, the annual prevalence of cocaine fell from a peak of 7.2% among secondary school students in 2004 to 4.1% in 2006, the lowest rate since the late 1990s.[17] In about 13 European countries[18] the use of both crack cocaine and cocaine HCl among students is still rising in terms of lifetime prevalence. However, there are sings of stabilization in another 13 countries (less than 1 percentage point difference). The average lifetime prevalence of cocaine use among 34 European countries and territories[19] rose for crack cocaine from 1.3% in 2003 to 2.0% in 2007 and for cocaine HCl from 1.6% in 2003 to 2.5% in 2007.

Annual prevalence of cocaine use among high school students in USA and Ontario (Canada), 1999-2008

Source: NIDA, *Monitoring the Future* and Center for Addiction and Mental Health, *Drug Use among Ontario Students 1977-2007.*



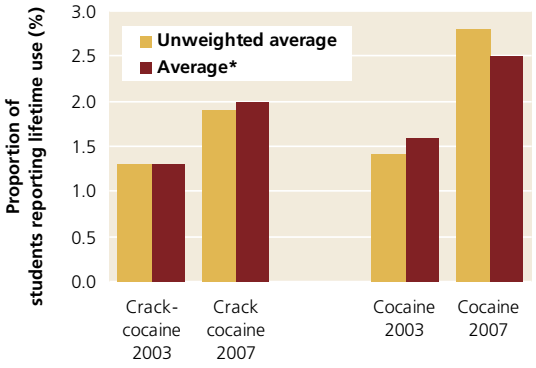
17 Ministerio de Sanidad y Consumo, *2007 National Report to the EMCDDA by the Reitox National Focal Point, "Spain" New Development, Trends and in-depth information on selected issues*, http://www.emcdda.europa.eu/attachements.cfm/att_61190_EN_NR2007Spain.pdf

18 Council of Europe, *The 2007 ESPAD Report, Substance Use Among Students in 35 European countries,* Stockholm. February 2009

19 In total, 35 European countries and territories participated in the 2003 ESPAD survey and 35 countries participated in the 2007 ESPAD survey. Data for comparison is available from 33 countries. In addition, the 2003 and the 2007 reports also provided data from Spain even though Spain had not formally participated in the ESPAD process.

Lifetime use of cocaine among European students, 2003 and 2007

* weighted by population age 16.
Sources: Council of Europe, *The 2007 ESPAD Report – Substance Use Among Students in 35 European Countries* and Council of Europe, The ESPAD Report 2003, *Alcohol and Other Drug Use Among Students in 35 European Countries.*



In Australia, lifetime prevalence of cocaine among students 12-17 years old declined from 4% in 1999 to 3% in 2005. Data obtained in the general population survey over the period 2004-2007 show a different trend among the young and adult population, with increases among adults but not young people.

2.3 Amphetamine-type-stimulant use trends among young people

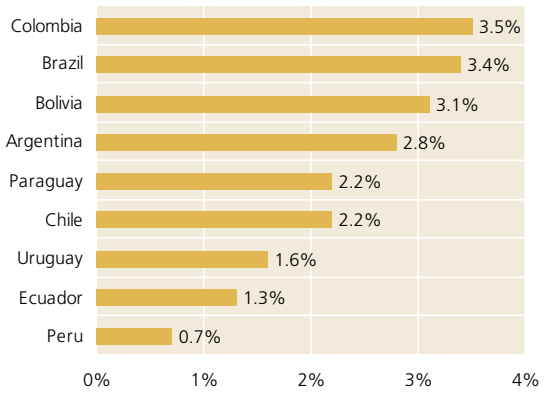
Following strong declines around the turn of the century in relation to ecstasy use in the USA and Canada, 2008 and 2007 student survey data indicate that little has changed since 2003. In 2008, United States students (8-12th grades) had an annual prevalence rate of ecstasy use of 3% while Canadian students in Ontario (7-12th grades) had a rate of 3.5%.

In South America, there was a general increase in the use of ecstasy among high-school students. In Argentina the annual prevalence rate increased from 0.2% to 2.2% and in Chile from 1.1% to 1.5%. An increase was also seen in Colombia between 2001 and 2004/5 where the annual prevalence among urban secondary students doubled from 1.6% to 3%.

Between 1995 and 2007, European students (age 15-16) reported overall increased lifetime use of ecstasy-group substances. However, there are diverging trends by sub-region. Students in countries of West and Central Europe[20] reported relatively stable rates since 2003 while students from Eastern Europe[21] reported increasing

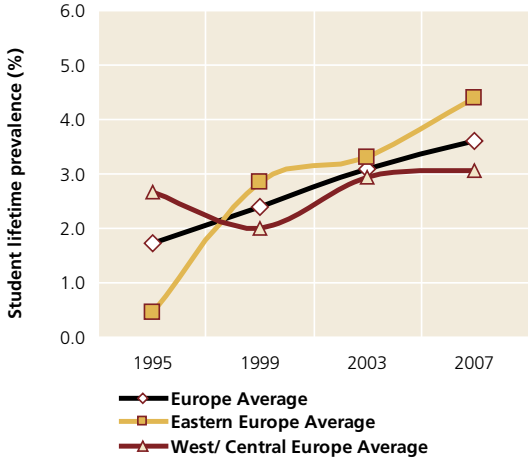
Annual prevalence amphetamines-group drugs among secondary students in select South American countries (rank ordered): 2004/05

Source: UNODC/CICAD/OEA (2006). *Jóvenes y drogas en países sudamericanos: Un desafío par alas políticas públicas: Primer estudio comparativo sobre uso de drogas en población escolar secundaria de Argentina, Bolivia, Brasil, Colombia, Chile, Ecuador, Paraguay, Perú y Uruguay*. Lima, Peru (Septiembre 2006).



Unweighted lifetime prevalence of European students (age 15-16) ecstasy-group use: 1995-2007

Source: Hibell, B., Guttormsson, U., Ahlström, S., Balakireva, O., Bjarnason, T., Kokkevi, A., & Kraus, L. (2009). *The 2007 ESPAD Report Substance Use Among Students in 35 European Countries*. The Swedish Council for Information on Alcohol and other Drugs (CAN). Stockholm.



lifetime prevalence during the same period. [22]

No recent data is available in Oceania for ATS use from school surveys. However, the latest data showed a downward trend among students 12-17 years old, from life

20 Students of West and Central Europe include: Austria, Belgium (Flanders), Cyprus, Denmark, Faroe Islands, Finland, France, Germany (6 states), Greece, Greenland, Iceland, Ireland, Isle of Man, Italy, Malta, Netherlands, Norway, Portugal, Sweden, Switzerland, and the United Kingdom.

21 Students of Eastern Europe include: Bulgaria, Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Russia (Moscow), Slovak Republic, Slovenia, and the Ukraine.

22 Council of Europe, *The 2007 ESPAD Report, Substance Use Among Students in 35 European countries,* Stockholm. February 2009.

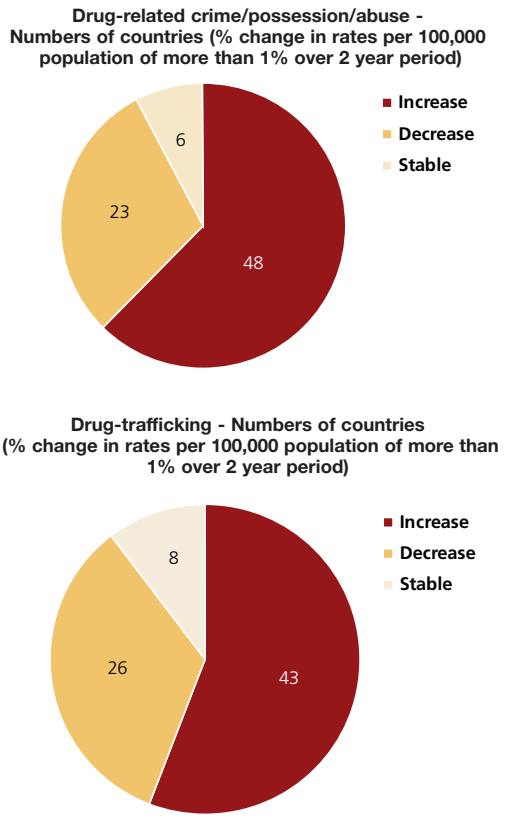
time prevalence of 7% in 1999 to 5% in 2005. For the use of ecstasy, the lifetime prevalence remained stable at around 4%.

3. Police-recorded drug offences

Crime recorded by law enforcement agencies may be directly or indirectly related to drugs. On the one hand, a proportion of crimes such as robbery, theft, assault or burglary are driven by underlying factors such as drug use. From a statistical point of view, the extent to which drug use is responsible for such crimes is not easily captured by and rarely forms part of official reports. On the other hand, law enforcement agencies in most countries produce and retain information on drug offences, which can be broken into two broad categories: *drug-related crime/possession/abuse* which corresponds more closely to personal use offences and *drug trafficking* (sale). Many countries report this data at the international and regional level, including through UNODC data collection mechanisms.[23] These data are not usually presented in their raw form because they can be confusing. The number of drug offences recorded is a product of both the extent of drug activity and the extent of drug enforcement activities. As a result, it is possible that countries with relatively minor drug problems can have drug offence rates higher than those with very severe ones, making comparison between countries a particular challenge.

This problem can be partly overcome by limiting the analysis to trends within countries. For those countries reporting this information to UNODC, a majority show an increase in the number of drug crimes in recent years. Some 62% of countries showed an increase in possession offences[24] and 56% of countries showed an increase in drug trafficking offences.[25]

Fig. 15: Country-level trends for police-recorded drug-related crime/possession/abuse and drug trafficking (change over two year period, ending with most recent year available)[26]



Still, it is difficult to say whether this trend is the result of a growing problem or increased enforcement activity. Of those countries that showed an increase in drug trafficking offences, almost 70% showed an increase in possession offences. This strong association suggests these increases may be driven by increased drug law enforcement, rather than changes in the drug situation itself. In some regions, increases in recorded drug-trafficking offences are in line with increases in total drug seizures, including East Asia, South America, Central America and the Caribbean and East Europe. In West and Central Europe, however, the increase in drug possession/use does correspond to an increase in the perceived severity of the drug problem, as reflected in public surveys.[27]

23 The primary instrument used by UNODC for collection of crime and criminal justice data is the United Nations Survey of Crime Trends and Operations of Criminal Justice Systems (the "UN-CTS"). Data from the UN-CTS may be accessed at: http://www.unodc.org/unodc/en/data-and-analysis/United-Nations-Surveys-on-Crime-Trends-and-the-Operations-of-Criminal-Justice-Systems.html. Part III of the ARQ requests data on the number of persons arrested/total recorded offences for possession/abuse of drugs and for trafficking of drugs.

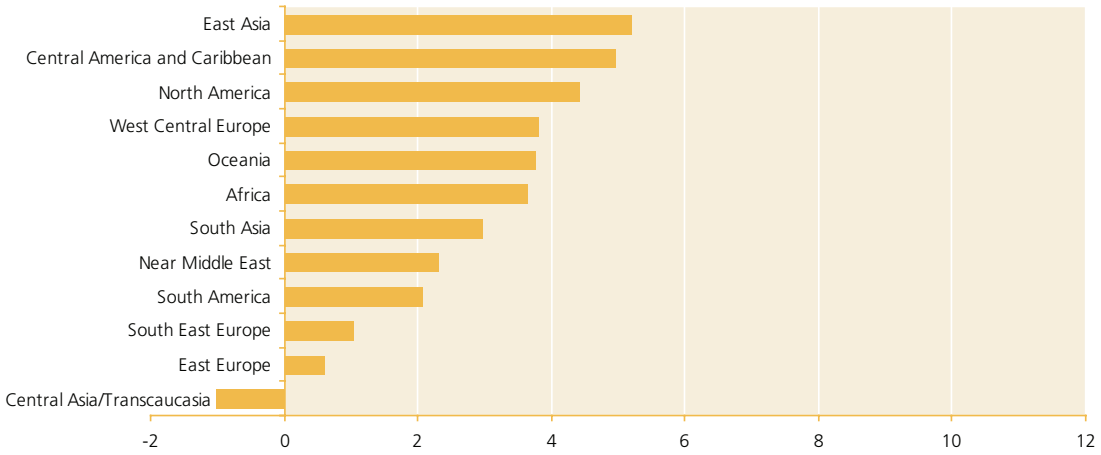
24 See 1988 Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances, Article 3(2). Cross-national analysis of trends must be carried out with a very high degree of caution. This is due not least to differences in national definitions of crime involving drugs. *'Personal use'* of drugs may be defined in national law on the basis of the amount of drug substance involved, and/or with respect to the nature of the act, such as cultivation, production, manufacture, preparation, offering for sale, distribution, or sale. Drug amount thresholds in criminal law can also vary between countries, as can the nature and type of narcotic drug or psychotropic substance or precursor. Legal regimes sometimes create administrative drug offences, which may or may not be recorded and reported together with criminal offences. Finally, in addition to varying legal definitions, differences in capacity, criteria and approaches to case recording, as well as the effect of law enforcement resources and priorities, can have a significant impact on numbers recorded and reported.

25 The UN-CTS defines 'drug trafficking' as meaning drug offences, which are not in connection with personal use.

26 Where possible, data for the years 2005 and 2007 is compared. Where data for either of these years was not available, the closest available year is used instead.

27 *Criminal Victimisation in International Perspective: Key findings from the 2004-2005 International Crime Victims Survey and European Crime and Safety Survey*. Research and Documentation Centre of the

Ratio between police-recorded drug-related crime/possession/abuse and police-recorded drug trafficking crimes



Another way to make use of these data is to compare between the two categories of offences. The ratio of drug possession offences to drug trafficking offences gives a good indication of the enforcement approach taken in any given country. For countries in East Asia, Central America and the Caribbean, North America, and West and Central Europe, law enforcement agencies record above four times as many possession offences as they do trafficking offences.[28] Countries in these subregions, in particular, show a significant number of offences that fall within the broad 'less serious' category, relative to the number of more serious offences.

In contrast, subregional ratios for South-East Europe, East Europe and Central Asia and Transcaucasia show only small differences in the number of offences recorded in each category. Central Asia and Transcaucasia, in particular, shows more recorded offences in the more serious category of drug trafficking than in the less serious category of drug-related crime/possession/abuse. The underlying reasons for this may include a relatively lower estimated prevalence of drug use, particularly cannabis, cocaine, and amphetamines than for other subregions, combined with the existence of key drug transit routes.[29] In addition, the effect of different national drug policies, including the national legal definition of 'drug trafficking' may have a very significant effect on the relative distribution of serious and less-serious recorded offences.

Dutch Ministry of Justice (WODC) 2007. p. 97

28 See Fig. 15

29 *Crime and its impact on the Balkans and affected countries*. United Nations Office on Drugs and Crime 2008. p.59.

1. TRENDS IN THE WORLD DRUG MARKETS

1.1 Opium / heroin market

1.1.1 Summary trend overview

Opium poppy cultivation in Afghanistan, the source country for most of the world's opium, decreased by 19% in 2008. As a result, the total area under cultivation in the three major cultivating countries thus decreased to 189,000 hectares, in spite of small increases in Myanmar and the Lao People's Democratic Republic. Total potential opium production also decreased to a total of some 8,000 metric tons; a high level, in spite of the decrease.

Overall opiate seizures remained stable – at a high level - in 2007, due to a large decrease in morphine seizures. Opium and heroin seizures increased by 33% and 14%, respectively. Although opiate trafficking is global, more than two thirds of seizures were reported by South-West Asian countries in 2007. Europe accounted for the second largest share of seizures, mainly from south-eastern countries.

Opiates remain the world's main problem drug in terms of treatment, and a majority of the world's opiate users live in Asia. The highest levels of use (in terms of the proportion of the population aged 15-64 years) are found along the main drug trafficking routes close to Afghanistan. UNODC estimates that the number of people who used opiates at least once in 2007 was between 15 and 21 million people worldwide.[1]

1 The lack of robust data on the levels of drug use, particularly in large countries such as China and India, is a huge impediment to an accurate understanding of the size of the population of drug users. Please see the Methodology and Special Features sections below for more detail.

1.1.2 Production

Cultivation

The area under opium poppy cultivation in major cultivating countries decreased by 16% over the past year, mainly due to a large decrease in Afghanistan. Opium poppy cultivation did not change much in Myanmar and the Lao People's Democratic Republic. Overall, the level of opium poppy cultivation in Afghanistan, Myanmar and Lao PDR was about the same as in 2006.

In Afghanistan, opium poppy cultivation continued to be concentrated mainly in the southern provinces, while more provinces in the centre and north of the country became poppy-free. Two thirds of the area under opium poppy cultivation in 2008 – more than 100,000 ha - were located in the southern province of Hilmand alone. The decline in cultivation happened in spite of less opium poppy eradication in 2008 (5,480 ha) than in 2007 (19,047 ha). In 2008, opium poppy cultivation continued to be associated with insecurity. Almost the entire opium poppy-cultivating area was located in regions characterized by high levels of insecurity.

In Pakistan, opium poppy continued to be cultivated in the border area with Afghanistan at about the same relatively low level of about 2,000 ha reported over the past 5 years.

In Myanmar, opium poppy cultivation remained below levels reached in 2004 and before. As in the past, cultivation of opium poppy was heavily concentrated in the Shan State in eastern Myanmar. In Lao PDR, a low level of opium poppy cultivation was found in the northern provinces.

Table 1: Global illicit cultivation of opium poppy and production of opium, 1994-2008

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
CULTIVATION[a] IN HECTARES															
SOUTH-WEST ASIA															
Afghanistan [b]	71,470	53,759	56,824	58,416	63,674	90,583	82,171	7,606	74,100	80,000	131,000	104,000	165,000	193,000	157,000
Pakistan [c]	5,759	5,091	873	874	950	284	260	213	622	2,500	1,500	2,438	1,545	1,701	1,909
Subtotal	77,229	58,850	57,697	59,290	64,624	90,867	82,431	7,819	74,722	82,500	132,500	106,438	166,545	194,701	158,909
SOUTH-EAST ASIA															
Lao PDR [d]	18,520	19,650	21,601	24,082	26,837	22,543	19,052	17,255	14,000	12,000	6,600	1,800	2,500	1,500	1,600
Myanmar [e]	146,600	154,070	163,000	155,150	130,300	89,500	108,700	105,000	81,400	62,200	44,200	32,800	21,500	27,700	28,500
Thailand [f]	478	168	368	352	716	702	890	820	750						
Viet Nam [f]	3,066	1,880	1,743	340	442	442									
Subtotal	168,664	175,768	186,712	179,924	158,295	113,187	128,642	123,075	96,150	74,200	50,800	34,600	24,000	29,200	30,100
LATIN AMERICA															
Colombia [g]	15,091	5,226	4,916	6,584	7,350	6,500	6,500	4,300	4,153	4,026	3,950	1,950	1,023	714	394
Mexico [h]	5,795	5,050	5,100	4,000	5,500	3,600	1,900	4,400	2,700	4,800	3,500	3,300	5,000	6,900	n.a.
Subtotal	20,886	10,276	10,016	10,584	12,850	10,100	8,400	8,700	6,853	8,826	7,450	5,250	6,023	7,614	n.a.
OTHER															
Combined [i]	5,700	5,025	3,190	2,050	2,050	2,050	2,479	2,500	2,500	3,074	5,190	5,212	4,432	4,185	n.a.
GRAND TOTAL	**272,479**	**249,919**	**257,615**	**251,848**	**237,819**	**216,204**	**221,952**	**142,094**	**180,225**	**168,600**	**195,940**	**151,500**	**201,000**	**235,700**	**n.a.**
POTENTIAL PRODUCTION IN METRIC TONS OPIUM[j]															
SOUTH-WEST ASIA															
Afghanistan [b]	3,416	2,335	2,248	2,804	2,693	4,565	3,276	185	3,400	3,600	4,200	4,100	6,100	8,200	7,700
Pakistan [c]	128	112	24	24	26	9	8	5	5	52	40	36	39	43	48
Subtotal	3,544	2,447	2,272	2,828	2,719	4,574	3,284	190	3,405	3,652	4,240	4,136	6,139	8,243	7,748
SOUTH-EAST ASIA															
Lao PDR [d]	120	128	140	147	124	124	167	134	112	120	43	14	20	9	10
Myanmar [e]	1,583	1,664	1,760	1,676	1,303	895	1,087	1,097	828	810	370	312	315	460	410
Thailand [f]	3	2	5	4	8	8	6	6	9						
Viet Nam [f]	15	9	9	2	2	2									
Subtotal	1,721	1,803	1,914	1,829	1,437	1,029	1,260	1,237	949	930	413	326	335	469	420
LATIN AMERICA															
Colombia [g]	205	71	67	90	100	88	88	80	52	50	49	24	13	14	10
Mexico [h]	60	53	54	46	60	43	21	91	58	101	73	71	108	149	n.a.
Subtotal	265	124	121	136	160	131	109	171	110	151	122	95	121	163	n.a.
OTHER															
Combined [i]	90	78	48	30	30	30	38	32	56	50	75	63	16	15	n.a.
GRAND TOTAL	**5,620**	**4,452**	**4,355**	**4,823**	**4,346**	**5,764**	**4,691**	**1,630**	**4,520**	**4,783**	**4,850**	**4,620**	**6,610**	**8,890**	**n.a.**
HEROIN															
Potential HEROIN [k]	**562**	**445**	**436**	**482**	**435**	**576**	**469**	**163**	**452**	**478**	**495**	**472**	**606**	**735**	**n.a.**

(a) Opium poppy harvestable after eradication.

(b Afghanistan, sources: 1994-2002: UNODC; since 2003: National Illicit Crop Monitoring System supported by UNODC.

(c) Pakistan, sources: ARQ, Government of Pakistan, US Department of State

(d) Lao PDR, sources: 1994-1995: US Department of State; 1996-1999: UNODC; since 2000: National Illicit Crop Monitoring System supported by UNODC.

(e) Myanmar, sources: 1994-2000: US Department of State; since 2001: National Illicit Crop Monitoring System supported by UNODC.

(f) Due to continuing low cultivation, figures for Viet Nam (as of 2000) and Thailand (as of 2003) were included in the category "Other".

(g) Colombia, sources: 1994-1999: various sources, since 2000: Government of Colombia. In Colombia, opium is produced as opium latex, which has a higher moisture content than opium produced in other regions of the world. To maintain comparability with other countries, opium production in Colombia was calculated by dividing the potential annual heroin production by 10.

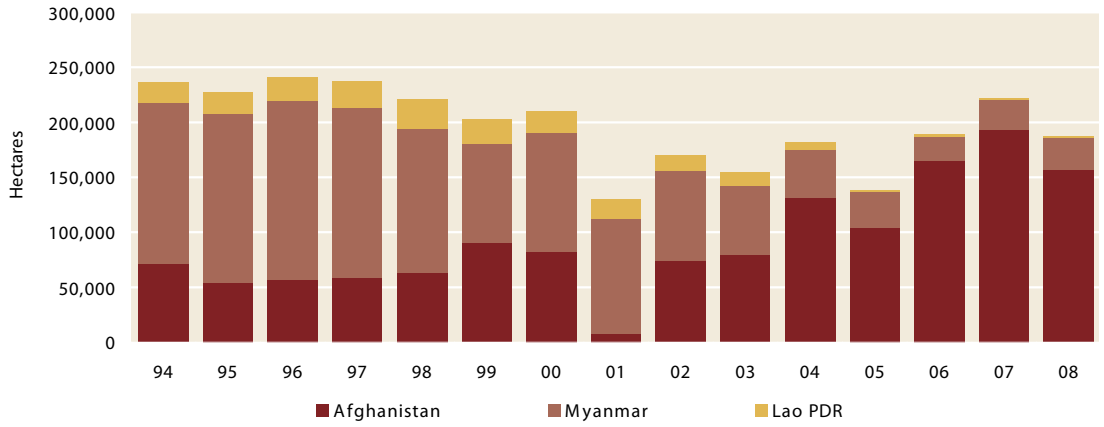
(h) Figures derived from US Government surveys. In 2006, the Government of Mexico reported a gross opium poppy cultivation of 19,147 hectares and estimated potential gross opium production at 211 mt. These gross figures are not directly comparable to the net figures presented in this table.

(i) Reports from different sources indicate that illicit opium poppy cultivation also exists in other countries and regions, including the Baltic countries, Balkan countries, Egypt, India, Guatemala, Iraq, Lebanon, Nepal, Peru, Russian Federation and other C.I.S. countries, Thailand, Ukraine, Viet Nam, as well as in Central Asia and Caucasus region. The cultivation level in these countries and regions is thought to be low. Due to the difficulties of estimating cultivation and production based on the available information, no estimate is provided for 2008.

(j) All figures refer to dry opium.

(k) Heroin estimates for Afghanistan are based on the Afghanistan Opium Surveys (since 2004). For other countries, a 10:1 ratio is used for conversion from opium to heroin.

Fig. 1: Opium poppy cultivation in major cultivating countries (ha), 1994-2008



Reports on eradication of opium poppy from Bangladesh, India, Nepal, Thailand and Viet Nam indicated the existence of cultivation in these countries. However, the extent of illicit opium poppy cultivation in these countries is not known, with the exception of Thailand, which reported the detection of 288 ha of opium poppy, most of which was subsequently eradicated.

In the Americas, opium poppy cultivation was reported from Colombia and Mexico, and reports on eradication in Ecuador, Guatemala, Peru and the Bolivarian Republic of Venezuela over the past years point to the existence of opium poppy cultivation in these countries as well.

Reports from different sources indicate that opium poppy cultivation also exists in other countries and regions, including the Baltic countries, Balkan countries, Egypt, Iraq, Lebanon, Russian Federation, Ukraine, and countries in Central Asia and the Caucasus region. The cultivation levels in these countries and regions are thought to be low.

Production

The potential opium production in the major opium poppy cultivating countries decreased slightly but is still high compared to previous years.

Opium yields in Afghanistan remained high in 2008. The potential opium production was estimated at 7,700 mt (range 6,330-9,308 mt). Some 60% is believed to be converted into morphine and heroin within the country. The amount of morphine and heroin produced in Afghanistan available for export was estimated at 630 mt (range 519-774 mt). Almost 40% of the total production was exported as opium.

Fig. 2: Opium production in major cultivating countries (mt), 1994-2008

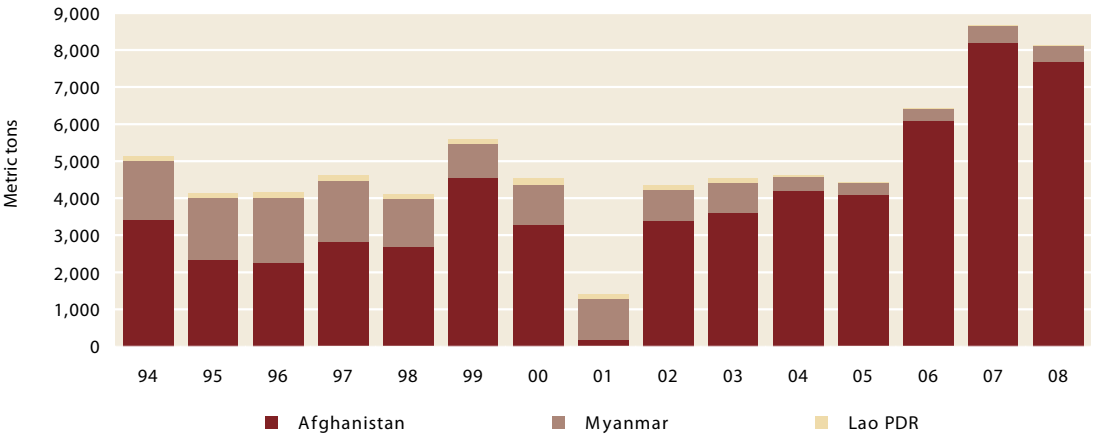
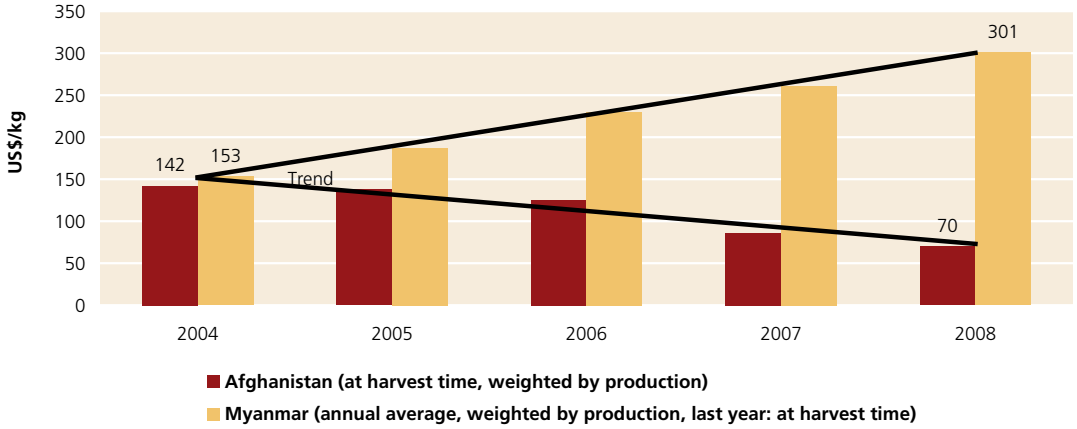


Fig. 3: Annual farm-gate prices for dry opium in Afghanistan and Myanmar, 2004-2008 (US$/kg)

Sources: UNODC



Opium production in Myanmar was estimated at 410 mt, which is much lower than in the years before 2004. Afghanistan remained the world's largest opium producer, followed by Myanmar.

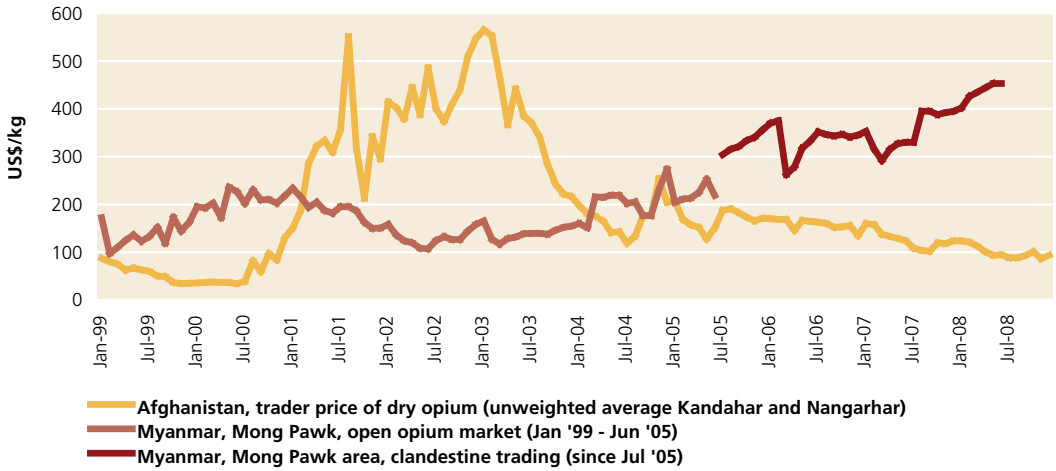
Prices

Farm-gate prices in Afghanistan and Myanmar differ considerably both in trend and level. In 2004, farmers in both countries received about US$ 150/kg for one kilogram of dry opium. Since then, farm-gate prices in Afghanistan have roughly halved, whereas they doubled in Myanmar. A similar diverging trend can be observed in trader prices in opium production areas, which have been available since 1999.

A comparison of average opium production levels in Afghanistan and Myanmar supports the assumption that local opium production levels had a strong influence on these prices. In Afghanistan, annual opium production before the Taliban opium ban in 2001 was at about 3,000 mt on average (1994-2000). Since 2002, opium production has been much higher in every single year, and amounted to an average of some 5,300 mt. Reflecting these high supply levels, Afghan opium prices have been on the decrease since 2003. In Myanmar, on the other hand, average annual opium production fell from about 1,400 mt (1994-2001) to an annual average of just 500 mt (2002-2008). As a consequence, opium prices in Myanmar increased considerably. In these two cases, the laws of supply and demand seem to hold some

Fig. 4: Monthly trader prices for dry opium in Afghanistan and Myanmar, 1999-2008 (US$/kg)

Sources: UNODC



explanatory power for prices in production areas. However, it should be noted that illicit markets do not necessarily show the same behaviour as licit markets.

Relatively high opium prices of over US$ 1,000/kg in neighbouring Lao PDR and Thailand, where very little opium is produced, also indicate that the demand for opium is high compared to the amount available on the market in the region.

Compared to Asia, farm-gate prices for opium latex in Colombia were high, at US$ 318/kg in 2008. This would correspond to more than US$ 600/kg in dry opium equivalents. It should be noted that in the countries discussed, opium is traded in the respective local currencies, and that prices were not adjusted for inflation.

Laboratories

In 2007, the detection of 638 opiates-producing clandestine laboratories was reported to UNODC. In 2006, originally, a similar number of laboratories were reported by Governments (619), which was later updated to 873 based on additional reports received. Ukraine and Moldova, which reported high numbers of laboratories destroyed in 2006, did not report the detection of laboratories in 2007.

The Russian Federation reported the highest total number of opiate-processing laboratories (547) and, included in this number, also the highest number of heroin laboratories (187) of all countries reporting.[2] However, the amount of heroin seized at the laboratory sites does not indicate that these were large-scale processing facilities. Opiate processing laboratories were also detected in Afghanistan (57 heroin-processing), where most of the world's illicit opium is produced, Australia (9 heroin-processing), China (9 heroin-processing), Myanmar (8 heroin-processing), Mexico (4 heroin-processing), Colombia (2 heroin-processing), Germany (1 fentanyl-processing) and India (1 heroin-processing laboratory).

Laboratories in Moldova, the Russian Federation and Ukraine tend to produce acetylated opium from locally cultivated poppy straw. Indeed, most of the laboratories detected in the Russian Federation (347) were producing acetylated opium. The 2007 figures and the information received in connection to these figures indicate that most morphine and heroin processing takes place close the source, that is, in or close to the countries were opium poppy is cultivated, or, in the case of Germany and Australia, where opiates may be diverted from legal channels.

2 The number of detected heroin laboratories in the Russian Federation indicated in the text (187) relates to locations where different types of drugs were processed on a small scale and of low quality (so-called "kitchen production"). Russia did not report the detection of significant heroin-processing laboratories in 2007.

Precursors

Illicit morphine and heroin production in Afghanistan requires large quantities of precursor chemicals such as acetic anhydride, a substance which is essential in the refinement of morphine to heroin. All acetic anhydride has to be imported as there are no known production facilities and no reported legitimate use of the chemical in the country. Following increased cooperation between countries in the region within the framework of the Paris Pact Initiative, more precursor seizures were reported from Afghanistan and neighbouring countries as well as from the countries of origin. During operation TARCET (Targeted Anti-trafficking Regional Communication, Expertise and Training) and subsequent backtracking investigations, almost 20 mt of acetic anhydride and more than 27 mt of other precursor chemicals were seized in Afghanistan, the Islamic Republic of Iran, Kyrgyzstan, Pakistan, Tajikistan and Uzbekistan in 2008.[3] In Afghanistan, an additional 14,000 l of acetic anhydride plus several other substances typically used for heroin production were seized on other occasions. Several cases of attempted diversion of precursor shipments for illicit purposes were detected and prevented and significant precursor seizures were made in countries of origin in Europe and Asia as well as in countries along the heroin trafficking routes. The seizures and related investigations confirmed the assumption that large-scale trafficking of morphine and heroin precursor to Afghanistan and neighbouring countries occurs. It is not known to what extent uncontrolled chemicals are brought into the region to produce controlled substances such as acetic anhydride locally to avoid increased international control of precursor shipments. There are indications that precursors have become a major cost factor for clandestine laboratories producing heroin in Afghanistan.

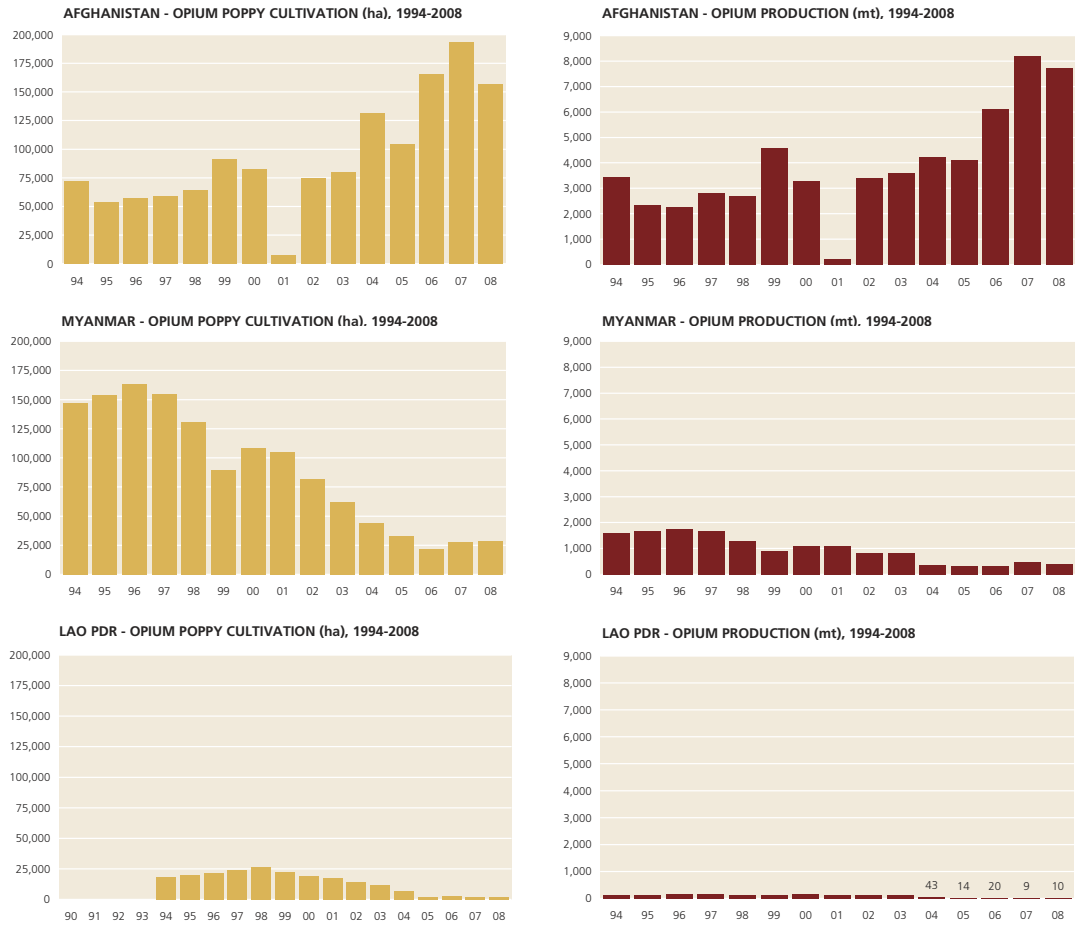
3 International Narcotics Control Board, E/INCB/2008/4

Table 2: Significant opium poppy eradication reported (ha), 1995-2008

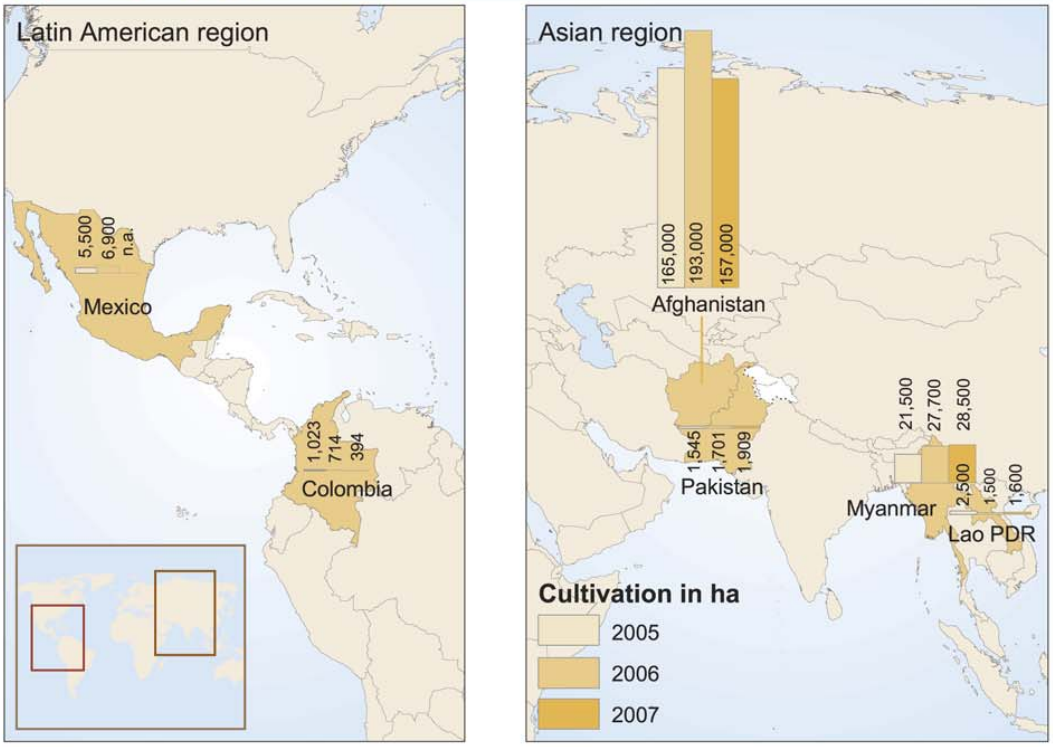
	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Afghanistan					400	121			21,430	*	5,103	15,300	19,047	5,480
Colombia	3,466	6,885	6,988	2,901	8,249	9,254	2,385	3,577	3,266	3,866	2,121	1,929	375	381
Egypt								15	34	65	45	50	98	
Guatemala											489	720	449	536
India			29	96	248	153	18	219	494	167	12	247	7,753	595
Lao PDR									4,134	3,556	2,575	1,518	779	575
Lebanon									4	67	27		8	
Mexico	15,389	14,671	17,732	17,449	15,461	15,717	15,350	19,157	20,034	15,926	21,609	16,890	11,046	13,095
Myanmar	3,310	1,938	3,093	3,172	9,824	1,643	9,317	7,469	638	2,820	3,907	3,970	3,598	4,820
Pakistan		867	654	2,194	1,197	1,704	1,484		4,185	5,200	391	354	614	0
Peru				4	18	26	155	14	57	98	92	88	88	16
Thailand	580	886	1,053	716	808	757	832	507	767	122	110	153	220	285
Venezuela	148	51	266	148	137	215	39	0	0	87	154	0	0	0
Viet Nam	477	1,142	340	439		426		125	100	32			38	99

* Although eradication took place in 2004, it was not officially reported to UNODC.

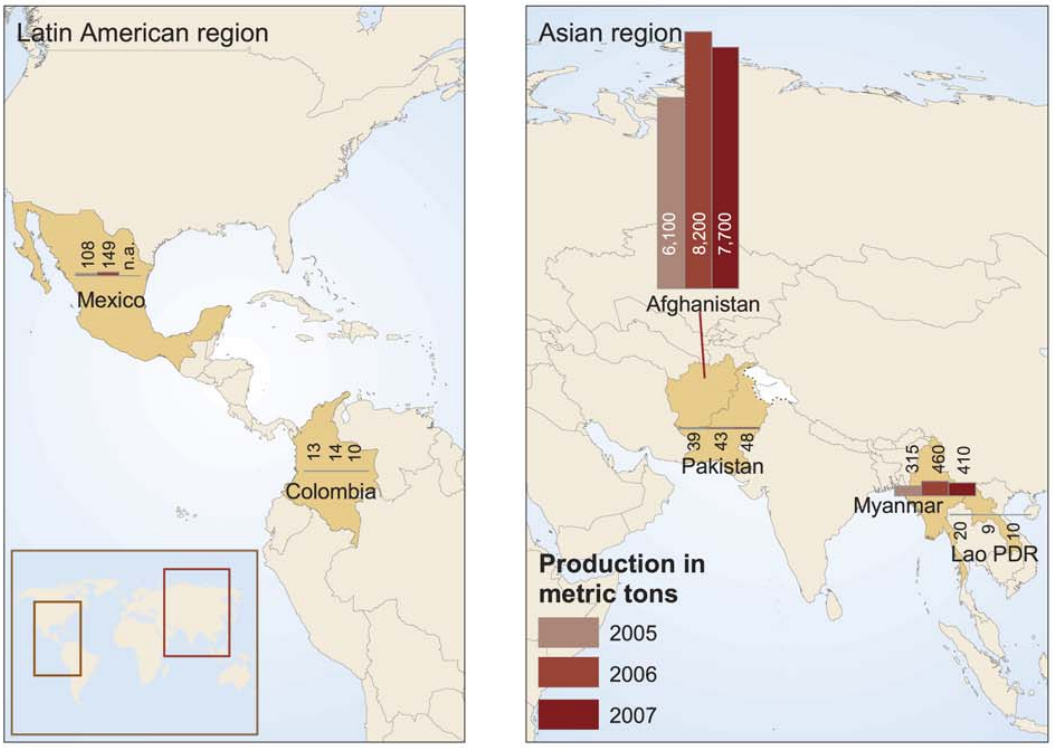
Fig. 5: Annual opium poppy cultivation and opium production in main producing countries, 1994-2008



Map 1: Opium poppy cultivation, 2006-2008



Map 2: Opium poppy production, 2006-2008



Estimating opium cultivation and production

Illicit crop cultivation is often associated with insecurity, insurgency and lack of alternative livelihood options. Knowing where poppy is cultivated and how much opium and heroin can be produced is important for Governments and the international community to understand and tackle the issue.

In Afghanistan, Myanmar and the Lao People's Democratic Republic, UNODC supports the efforts of the respective Governments to estimate the annual area under opium poppy cultivation. In Afghanistan and Myanmar, this is mainly done by using high-resolution satellite images. Opium poppy plants, like other crops, reflect sunlight in a specific way. This is not because of its colourful flower, but rather, a certain shade of green, which is different from other crops. This enables an image analyst to identify poppy. Other characteristics, such as the texture, shape or size of the field, are also used.

Important information comes from surveyors on the ground who map small portions of the area covered by the image and identify which crop is grown where. The growth stages of all crops and their exact locations are documented with photos and GPS devices. This information serves as an interpretation template for the image. If there is still uncertainty, a second image taken after the opium harvest can help. Farmers in Afghanistan, for example, plough poppy fields after the harvest, whereas they leave wheat fields for the cattle to graze on the stubble. The freshly ploughed poppy fields show clearly on the images with a darker tone.

Hundreds of satellite images are taken every year over different parts of the countries. This sample of images can be compared to a poll. If well designed, a poll enables analysts to understand the preferences of the population as a whole, although only a sample of the population is interviewed. Similarly, a sample of satellite images representing the total agricultural area in the country can be used to calculate the area under opium poppy cultivation, based on the results of the image analysis.

To be able to estimate opium production, surveyors visit fields in several hundred villages and measure the number of poppy capsules as well as their size in sample plots. Using a scientific formula, the measured poppy capsule volume indicate how much opium gum each plant can potentially yield. Thus, the opium yield per hectare can be estimated. Because of irrigation and climate, the yield can differ considerably from year to year and from region to region.

Opium yield and the total poppy cultivation area form the basis for estimating annual opium production. The bulk of the opium undergoes a transformation process to morphine and finally heroin. This is done by so-called "chemists" or "cooks" who know which precursor chemicals are necessary and in which quantities. Information on the efficiency of this transformation process comes mainly from law enforcement agencies which obtain detailed information from apprehended traffickers. With this information it is possible to estimate potential heroin production in a country.

1.1.3 Trafficking

Opiate trafficking is global, but seizures are stabilizing

In 2007, global seizures of opiates amounted to 143 mt (expressed in heroin equivalents[1]), about the same as in 2006 (142 mt). Compared to 1998, global opiate seizures almost doubled (93% increase).

Out of 143 countries that reported seizures to UNODC for 2007, 109 reported seizures of opiates. Trafficking in heroin is in geographical terms more widespread than trafficking in opium or morphine, as 107 countries reported seizures of heroin (75% of reporting countries), whereas 57 reported opium seizures and 36 morphine.

Opium seizures continue to rise in and around Afghanistan while morphine seizures decline

Although global opiate seizures remained stable between 2006 and 2007, there were significant market shifts among opium, heroin and morphine. Global opium seizures increased by 33% in 2007, in line with the rise in opium production reported in 2007 (34%). Some of the largest increases in opium seizures in 2007 were reported in and around Afghanistan (opium seizures in Tajikistan increased by 83%; Pakistan 71%; the Islamic Republic of Iran 37%; Afghanistan 28%). Most of the opium was seized in Iran (427 mt or 84% of the global total), followed by Afghanistan (52 mt) and Pakistan (6 mt).

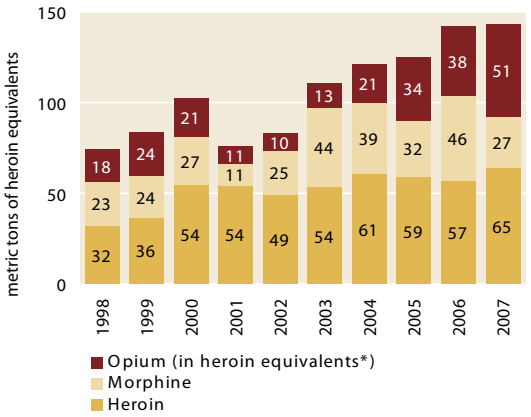
In contrast, morphine seizures fell by 41% in 2007, mainly due to lower seizures reported by Pakistan (66% decrease) and the Islamic Republic of Iran (9% decrease). The world's largest morphine seizures continued to be reported by Pakistan (11 mt or 40% of the global total), Iran (10 mt) and Afghanistan (5 mt).

Heroin seizures increase, but at a lower rate than opium production

Heroin seizures rose by 14% between 2006 and 2007, which is a smaller increase than the one observed in opium production in 2007 (34%). Some of the largest increases in heroin seizures were reported by countries along the main trafficking routes from Afghanistan to Europe.[2]

Fig. 6: Global opiate seizures, expressed in heroin equivalents*, by substance, 1998-2007

* based on a conversion rate of 10 kilograms of opium for 1 kg of morphine or 1 kg of heroin.
Source: UNODC, Annual reports Questionnaire Data / DELTA.



The largest heroin seizures in 2007 were reported by the Islamic Republic of Iran (16 mt or 25% of the world total), Turkey (13 mt) and Afghanistan (5 mt).

Processing of opium into heroin appears to be less frequent

Between 2003 and 2007, combined heroin and morphine seizures remained basically stable. Combined with the data on sharp increases in opium seizures, this suggests that transformation of opium into morphine and heroin is becoming more difficult and less frequent[3] in Afghanistan. It also suggests that the large increases in opium production in 2006/07 did not result in large increases in morphine and heroin flows out of Afghanistan.

1 For the purposes of this calculation it is assumed that 10 kg of opium are equivalent to 1 kg of morphine or 1 kg of heroin.

2 Afghanistan (+24%), Islamic Republic of Iran (+49%), Turkey (+28%), Bulgaria (+66%), Italy (+43%), Germany (+22%), Belgium (+212%) as well as, along the Northern Route, Kyrgyzstan (65%), Turkmenistan (+62%) and the Russian Federation (+20%)

3 Increases in the price of precursors in Afghanistan is an indication of the lack of supply of precursors which could make the production of heroin and morphine more difficult.

Fig. 7: Calculated global interception rate of opiates*

* seizures of opiates in a given year (in heroin equivalents) shown as a proportion of global illicit opiate production (in heroin equivalents)
Source: UNODC, 2008 World Drug Report and UNODC, ARQ data.

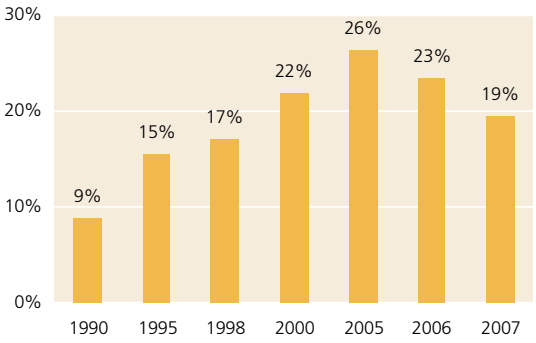
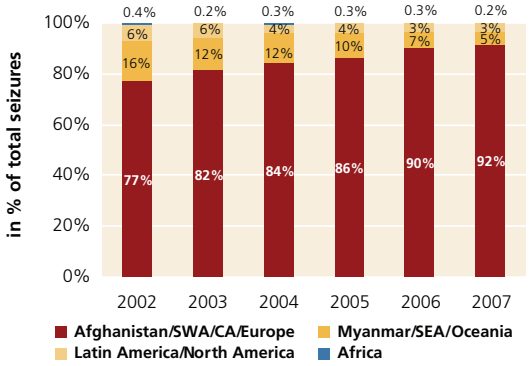


Fig. 8: Distribution of opiate seizures (expressed in heroin equivalents*), 2002-2007

* applying a conversion ratio of 10 kg of opium equivalent to 1 kg of morphine and 1 kg of heroin
Source: UNODC, ARQ data / DELTA.



The calculated global interception rate declines as more opiates are being stock-piled

The global interception rate for opiates[4] rose from 9% in 1990 to 26% in 2005. The rate started to decline after 2005, reaching 19% in 2007. Following the 2006 and 2007 increases in opium production which exceeded global demand, there are indications that a portion of opiates has been stockpiled. Prices continue to fall and trafficking out of Afghanistan did not grow as fast as opium production.

The falling levels of global opium production in 2008 may not translate into reduced trafficking flows in the near future as production shortfalls could be compensated by reducing the size of existing stocks.

The bulk of seizures take place close to opium production centers

Despite of the large number of countries affected by trafficking in opiates, there are clear concentrations of trafficking flows and seizures.

The most important subregion for opiate seizures in 2007 continued to be South-West Asia, accounting for 70% of global opiate seizures. The large seizures in this region clearly reflect the dominant position of Afghanistan as the world's largest opium producer.

Europe accounted for almost 19% of global opiate seizures. Most opiate seizures there were made in South-East Europe (11% of the total), notably by Turkey. Most of the opiates that reach Western Europe are trafficked from Afghanistan through Turkey and the Islamic Republic of Iran.

4 Interception rate is defined as the total seizures of opiates of a given year over the global illicit opiate production in the same year.

Opiate seizures made in East and South-East Asia, and Oceania, accounted for 5% of the global total in 2007.

Seizures in Africa account for only 0.2% of the world total. Traditionally, Africa has been supplied from South-West Asia (typically via Pakistan or India) and South-East Asia (typically via Thailand), though lately the opiates supply is almost exclusively from South-West Asia.

The Americas – which seem to be largely 'self-sufficient' in terms of opiate production and consumption - accounted for 3% of global opiate seizures. Most of the seizures in this region were made in the USA, the region's main opiate-consuming country.

Seizures rising in regions affected by Afghan opiates

The proportion of seizures related to Afghan opium production[5] increased from 77% of the world total in 2002 to 92% in 2007, reflecting the strong increases in Afghan opium production between 2002 and 2007. Opiate seizures in the countries of South-West Asia rose by 177% over the same period, and in Europe by 19%. In contrast, opiate seizures in the countries of Central Asia declined by 19%.

Seizures declined in regions typically supplied by South-East Asian opiates

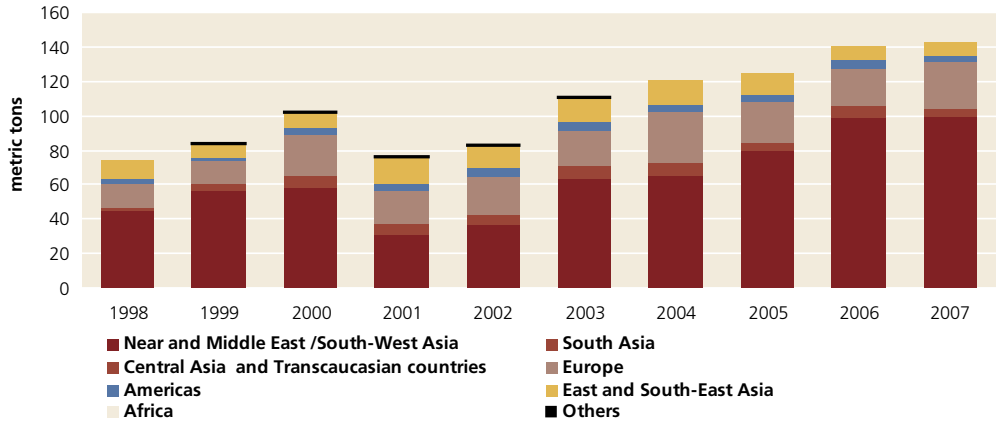
The proportion of opiate seizures in the countries mainly supplied by opiates produced in Myanmar and the Lao People's Democratic Republic[6] fell from 16% of the world total in 2002 to 5% in 2007. Reported seizures from countries in East and South-East Asia declined by 43% over the 2002-07 period. Opiate seizures reported by countries in Oceania fell by 86% over this period.

5 Seizures made by countries in South-West Asia, Central Asia, South Asia and Europe.

6 Countries in South-East Asia and Oceania.

Fig. 9: Global opiate seizures, expressed in heroin equivalents*, regional breakdown, 1998-2007

* For this calculation it is assumed that 10 kg of opium are equivalent to 1 kg of morphine and1 kg of heroin.
Source: UNODC, ARQ data / DELTA



Seizures declined in North America, but they are increasing again

The proportion of opiate seizures made in the Americas fell from 6% of the world total in 2002 to 3% in 2007. This mainly reflected falling opiate seizures in South America (-52% over the 2002-07 period), which is in line with reports of falling levels of opium production in Colombia. Opiate seizures reported from North America started rising again in 2007, after a downward trend in 2006 in Mexico and the USA.

The vast majority of opiates found in the USA (96%) originate in Mexico and Colombia.

Trafficking in opiates continues to be concentrated along three major routes …

Three distinct production centres for opiates still supply three distinct markets. The main trafficking flows continue to be:

- from Afghanistan to neighbouring countries, the Middle East, Africa and Europe;
- from Myanmar/Laos to neighbouring countries of South-East Asia, (notably China) and to the Oceania region (mainly Australia);
- from Latin America (Mexico, Colombia, Guatemala and Peru) to North America (notably USA)

…although alternative routes are emerging from South-West Asia to South-East Asia and the Oceania region

A number of reports show that trafficking activities have started to diversify from established market connections. Though the bulk of opiates found on the Chinese market is still from Myanmar, there have been reports of shipments of heroin from Afghanistan via Pakistan to China.[7] The heroin is being shipped either directly (mainly by air) from Pakistan to various Chinese destinations as well as indirectly, via Dubai (United Arab Emirates).[8] The amounts involved are still modest, but may represent emerging trafficking patterns.[9]

In 2007, Pakistan reported an additional new route to Malaysia, both direct and via Dubai. Until recently, heroin in Malaysia originated exclusively in Myanmar. This new route shows that Afghan opiates may now reach other destinations since Malaysia has been mentioned among the key embarkation points for heroin shipments into Australia.[10]

… and from South-West Asia to North America

New trafficking routes from South-West Asia to North America are emerging. Canada reported that 98% of the heroin found on their market in 2007 originated in South-West Asia. The heroin was mainly trafficked by air via India and Pakistan into Canada.[11] Organized crime groups in Ontario and British Columbia are involved in heroin imports.[12]

7 UNODC, ARQ data for 2007

8 UNODC, ARQ data for 2007.

9 Data collected on individual drug seizures show from 2004 to 2006 a marked upward trend of heroin seizures made in Pakistan with final destinations in China. This upward trend did not continue in 2007 and in 2008.

10 Australian Crime Commission, *Illicit Drug Data Report 2006-07*, revised edition, Canberra, March 2009.

11 UNODC, ARQ data for 2007.

12 Criminal Intelligence Service Canada (CISC), *Report on Organized Crime*, Ottawa, Ontario 2008.

Most heroin continues to be trafficked in the countries surrounding Afghanistan and along the Balkan route towards Western Europe

The bulk of all opiates produced in Afghanistan is destined for consumption in the neighbouring Islamic Republic of Iran, Pakistan, Central Asian countries and, to a lesser extent, India. These markets are, in fact, larger (about 5 million users) than the opiate market in West and Central Europe (about 1.4 million). The opiate markets in Western Europe are, however, financially more lucrative. Therefore, opiates also leave Afghanistan via Iran and Pakistan along the Balkan route towards Western Europe.

UNODC estimates for 2008 suggest that most of the opium exports from Afghanistan cross the border in the Islamic Republic of Iran (83%; range: 71%-96%). Morphine and heroin exports go to Pakistan (41%; range: 28%-51%) and Iran (39%; range: 32% - 44%) and to a lesser extent, to Central Asia (19%; range: 8%-25%)[13].

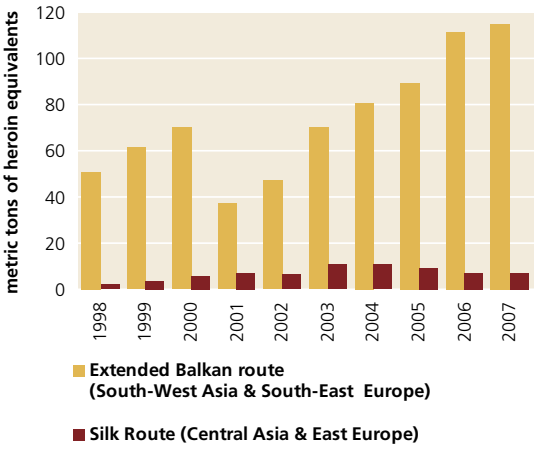
Opiate seizures continued to increase along the extended Balkan route in 2007, accounting for 94% of all seizures of Afghan opiates. Seizures along the other route, the Silk route (or North route) have continued to decline, reaching 9% in 2007.

Afghan opiates enter the Islamic Republic of Iran either directly from Afghanistan or via Pakistan.

The frequency of Turkey being mentioned by other European countries as a 'country of origin' for the heroin found on their markets has declined in recent years, reflecting decreasing heroin manufacturing levels in Turkey. Nonetheless, Turkey remains the key transit country for heroin produced in South-West Asia and consumed in Europe, in spite of alternative trafficking routes emerging in recent years. According to Turkish authorities, 80% of the heroin illegally imported into Turkey was from Afghanistan; the remaining 20% is believed to have originated in Iran.

Fig. 10: Opiate* seizures along the Balkan Route and along the Silk Route, 1998-2007

* For this calculation it is assumed that 10 kg of opium are equivalent to 1 kg of morphine and 1 kg of heroin.
Source: UNODC, Annual Reports Questionnaire Data / DELTA.



Once in Turkey, heroin is smuggled from eastern Turkey to Istanbul towards Bulgaria for subsequent transport to Serbia and Romania for shipments to various countries in Western Europe. Heroin and morphine seizures made by the Bulgarian authorities rose by 66% in 2007. According to Bulgarian authorities, most of the heroin seized in 2007 was destined for Croatia and Germany. According to information from the Romanian authorities major destination countries were the Netherlands and the United Kingdom.[14]

Another transit country for heroin leaving Bulgaria is the Former Yugoslav Republic of Macedonia. From there, heroin is either sent to Serbia for subsequent deliveries along the Balkan route (Bosnia-Herzegovina, Croatia, Slovenia) and Western Europe, or to Albania for subsequent shipment to Italy. In Italy, heroin coming from Albania and Turkey is destined for the domestic market (45%) and for re-export, mainly to Germany (35%).[15]

Most of the heroin shipments to Germany still arrive via the Balkan countries and Austria. The main destination of heroin seized in Germany is the Netherlands (78% in 2007). Once in the Netherlands the heroin is typically re-exported to the United Kingdom, France, Germany and other EU countries. Most of the heroin seized in France in 2007 had transited Turkey and the Netherlands and was on the way to the UK (50%) or to Spain (15%); about a quarter was for domestic consumption.[16]

There have been reports that heroin intended for Western Europe was also trafficked through Ukraine via Turkey and the Islamic Republic of Iran, with main destinations being the UK, Poland and Germany. [17]

A number of more direct routes from South-West Asia to Europe also exist, mainly via Pakistan as well as via the Middle East, Eastern and Western Africa.

13 UNODC, *Afghanistan Opium Survey 2008*, October 2008.

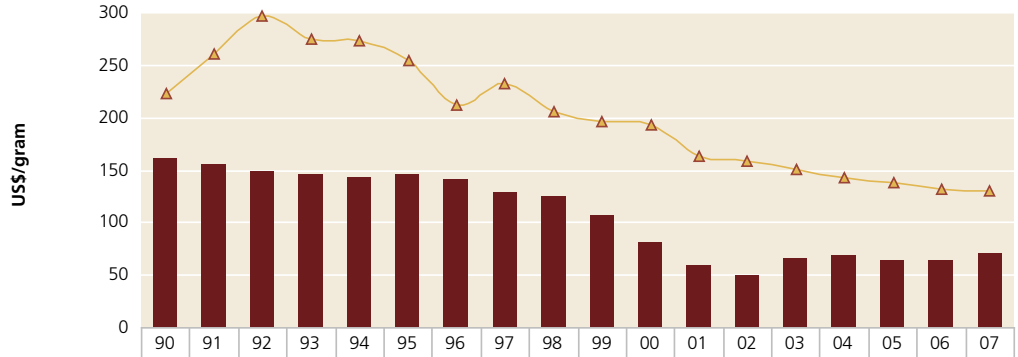
14 UNODC, Annual Reports Questionnaire Data for 2007.

15 UNODC, Annual Reports Questionnaire Data for 2007.

16 UNODC, Annual Reports Questionnaire Data for 2007.

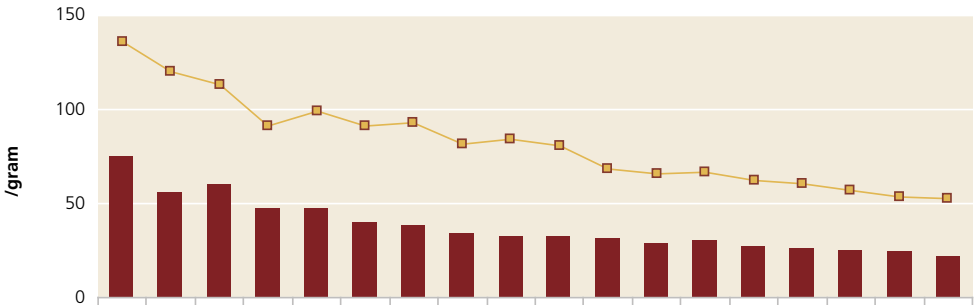
17 The Ukraine reported that 45% of heroin seized came via Turkey and 32% via the Islamic Republic of Iran and that 46% were intended for the UK, 31% for Poland and 23% for Germany. Source: UNODC, Annual Reports Questionnaire Data for 2007.

Fig. 11: USA: Heroin retail and wholesale prices, 1990-2007, US$/gram



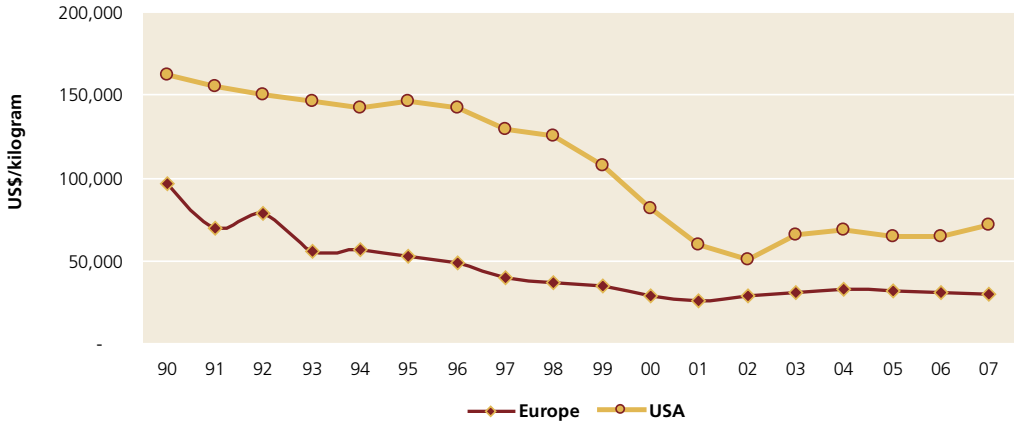
	90	91	92	93	94	95	96	97	98	99	00	01	02	03	04	05	06	07
Wholesale	163	155	150	146	143	146	142	129	125	107	81	60	51	66	69	65	65	71
Retail	224	261	296	275	274	255	212	233	206	196	192	164	158	150	142	138	132	131

Fig. 12: WESTERN EUROPE: Heroin retail and wholesale prices, 1990-2007, €/gram

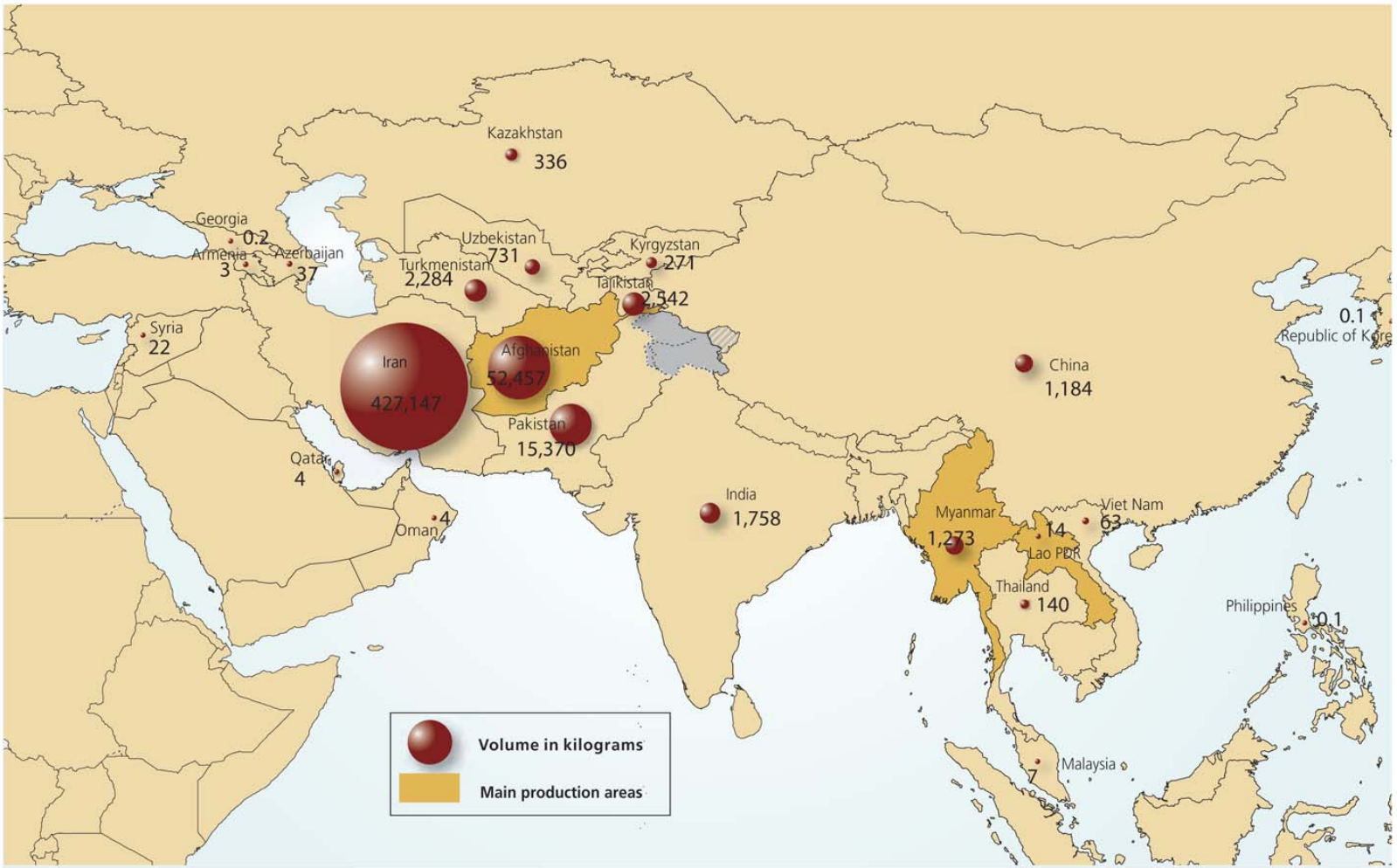


	90	91	92	93	94	95	96	97	98	99	00	01	02	03	04	05	06	07
Wholesale	75	56	61	47	48	41	38	35	33	32	31	29	30	27	26	25	25	22
Retail	136	120	113	91	100	91	93	82	84	81	69	66	66	62	61	57	53	52

Fig. 13: Wholesale heroin prices in Western Europe and the USA, 1990-2007 (US$/gram)

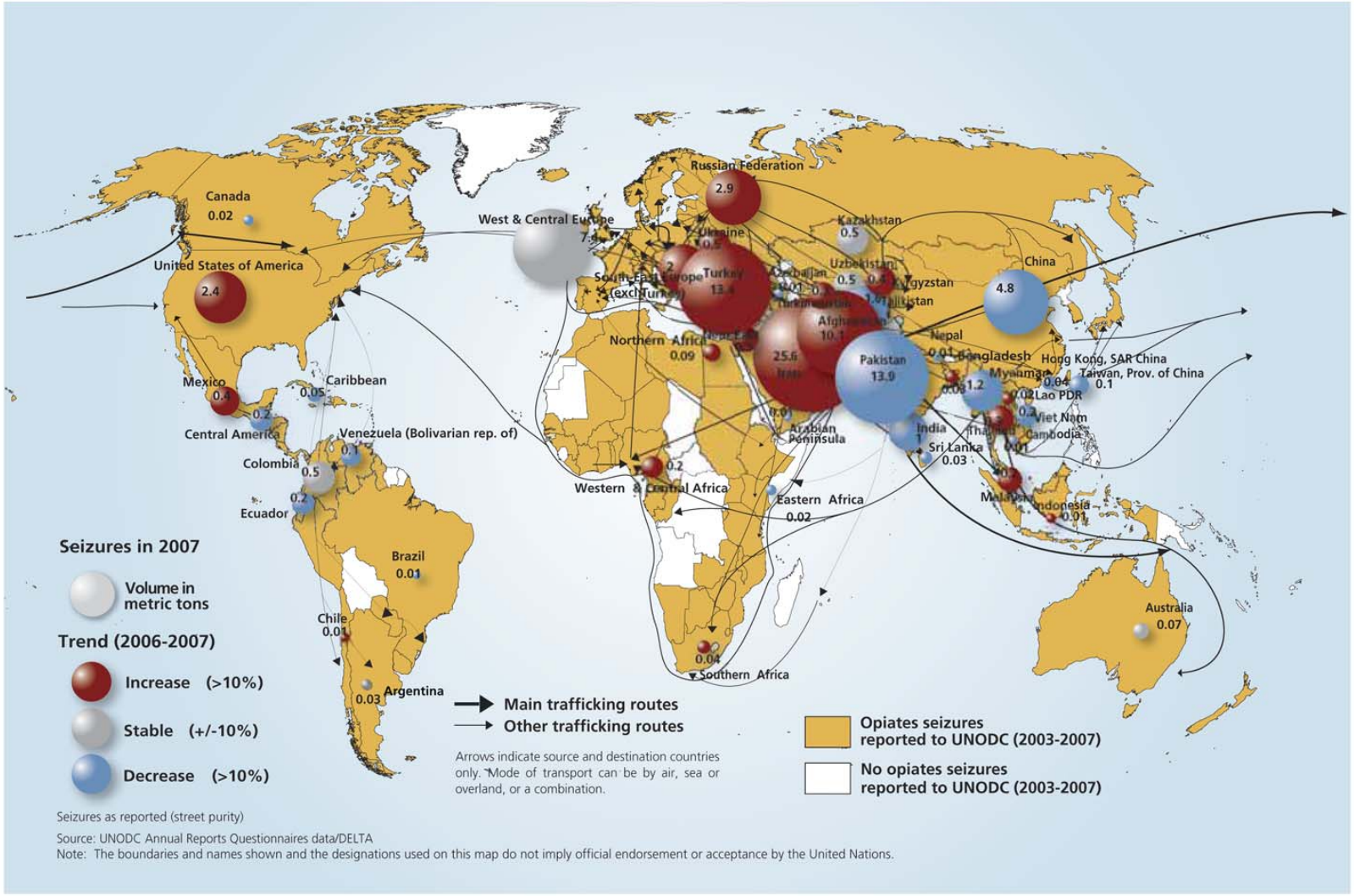


Map 3: Opium seizures in Asia,2007



Source: UNODC Annual Reports Questionnaires data/DELTA.
Note: The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.

Map 4: Trafficking in heroin and morphine, 2007 (countries reporting seizures* of more than 10 kg)

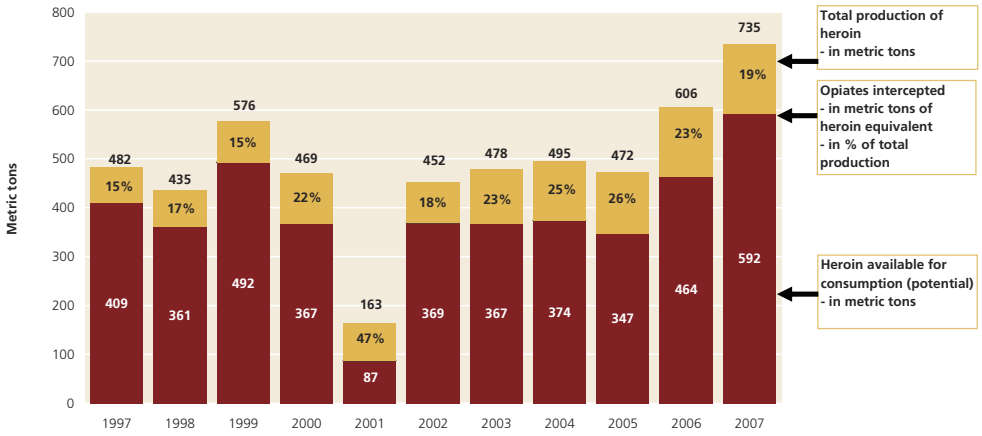


Seizures as reported (street purity)

Source: UNODC Annual Reports Questionnaires data/DELTA

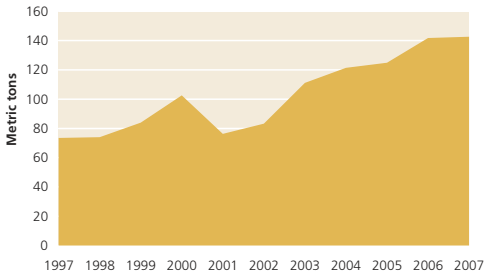
Note: The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.

Fig. 14: Global illicit supply of opiates, 1997-2007

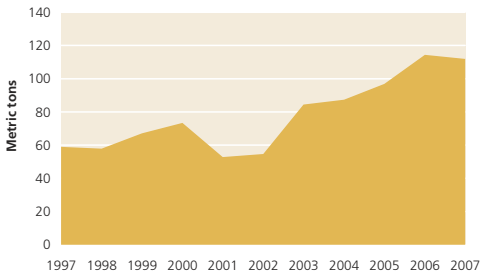


*Opiates are defined as heroin, morphine and opium (10:1) expressed in heroin equivalents.

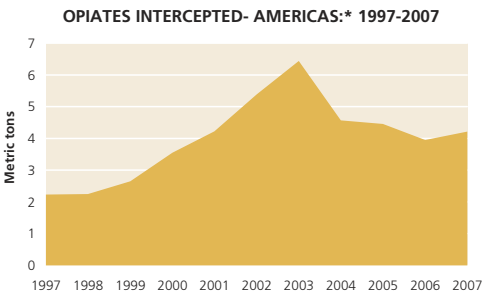
OPIATES INTERCEPTED- WORLD:* 1997-2007



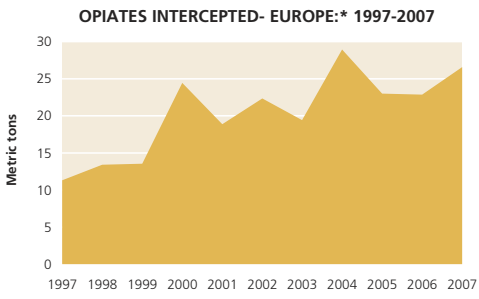
OPIATES INTERCEPTED- ASIA:* 1997-2007



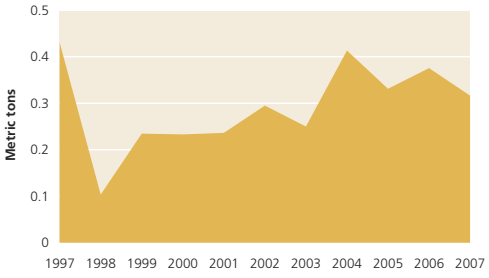
OPIATES INTERCEPTED- AMERICAS:* 1997-2007



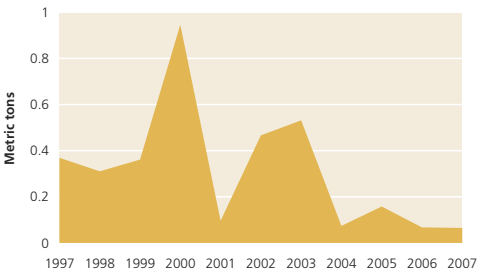
OPIATES INTERCEPTED- EUROPE:* 1997-2007



OPIATES INTERCEPTED- AFRICA:* 1997-2007

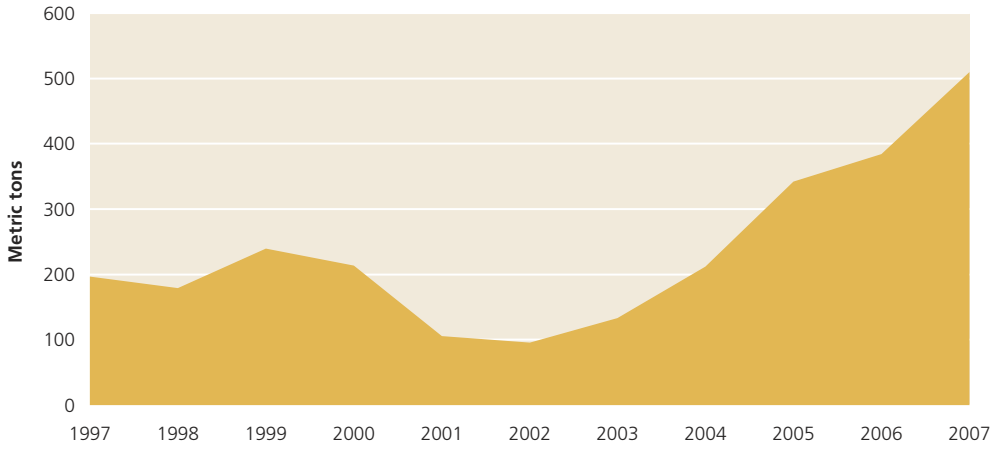


OPIATES INTERCEPTED- OCEANIA:* 1997-2007



*Opiates are defined as heroin, morphine and opium (10:1) expressed in heroin equivalents.

Fig. 15: Global seizures of opium, 1997-2007



Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Metric Tons	196	179	239	213	106	96	133	212	342	384	510

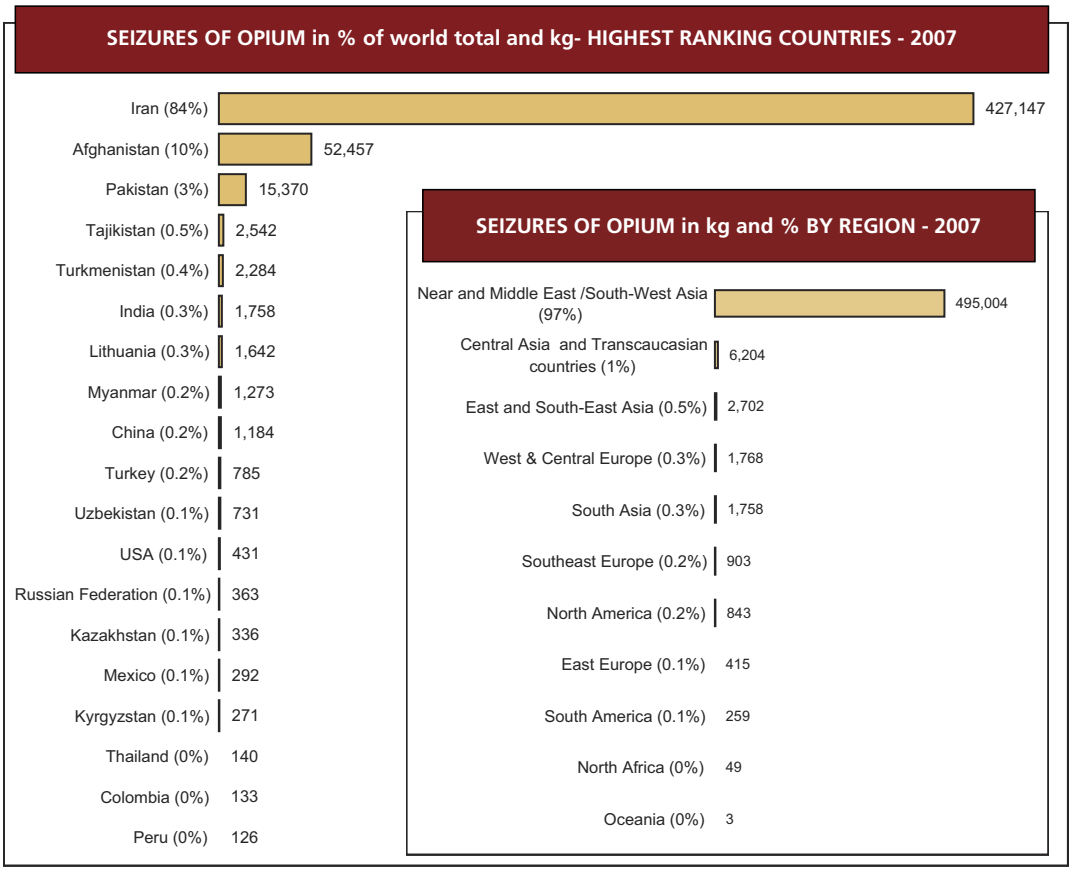
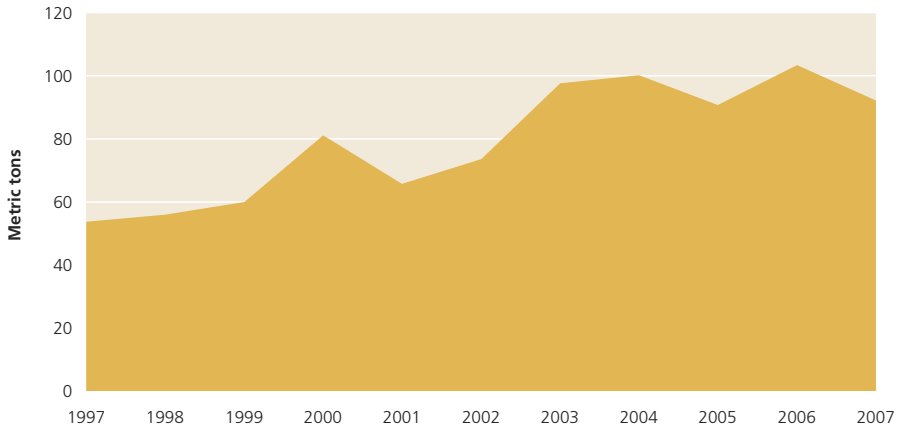


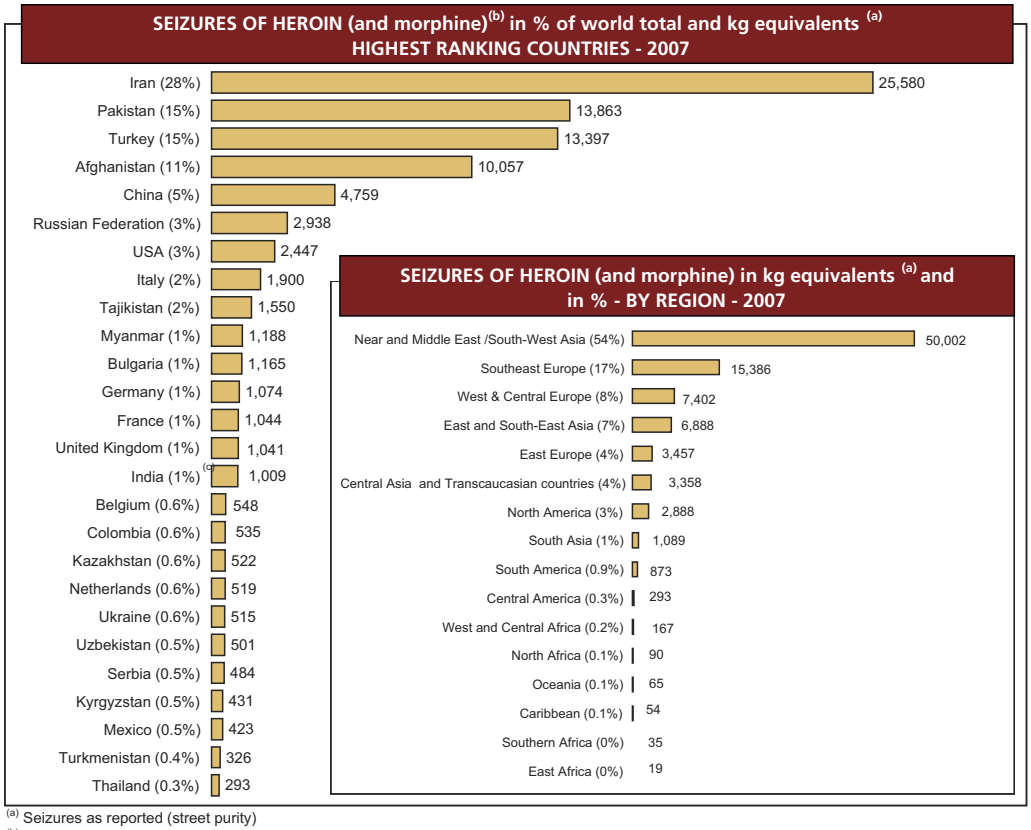
Fig. 16: Global seizures of heroin(a) and morphine(b), 1997-2007



[a] Seizures as reported (street purity).

[b] 1 kg of morphine is assumed to be equilveant to 1 kg of heroin.

Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Metric Tons	54	56	60	81	66	74	98	100	91	103	92



[a] Seizures as reported (street purity)

[b] 1 kg of morphine is assumed to be equivalent to 1 kg of heroin.

[c] Data refer to England and Wales only.

Interpretation of seizure data

The quantity of illicit drugs seized in a given year may be influenced by two main factors, namely the available supply of the drug in the illicit market and the effectiveness of interdiction efforts by law enforcement agencies.

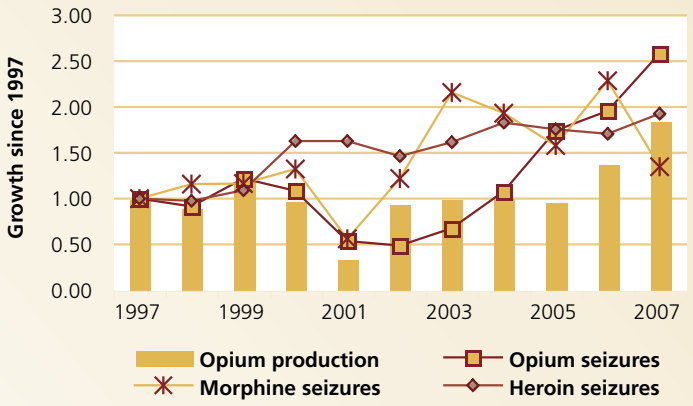
To measure supply, it is useful to have other indicators than seizure quantities. If these are obtained independently, they can help to interpret the market of illicit drugs and the relationship between supply and seizures. Price and purity are among the key factors that can help to better interpret trends in seizures. Trends in prices measure the changes in the market and can be a sign of changes in supply. For example, an increasing trend of seizures together with a decreasing trend in prices suggest a real increase in supply. An increasing trend in seizures with increasing price levels suggests an improvement in law enforcement activities. Information on purity is also important to interpret data on seizures. Very often the market reacts to a decrease of supply by diminishing the pure content of the drug. Increases or decreases of seizures in terms of weight or unit may not be sufficient to measure actual changes occurring in the market.

In many countries, only seizure data are available to estimate a trend in the availability of illicit drugs. How much seizure trends can help to understand the availability of drugs is illustrated in the following example, where trends in opium seizures and production (as a proxy of supply) are compared at the global level. Interpreting seizure data on short-term changes or in one single country could be meaningless. Looking at long-term changes on a global scale provides a more accurate picture.

In the figure, the growth of opium production is presented together with growth of global seizures of opium, heroin and morphine. If it is assumed that both seizures and opium production are indicators of the supply of opiates, it is expected that seizures and production follow the same pattern. Indeed it can be noted that seizures of opium and morphine follow the same trend as production, but this is not true for heroin. Heroin seizures do not show the same drastic decline that affected production in 2001. The sustained high levels of heroin seizures in 2001, despite the decrease of production, may partly be attributed to intensified law enforcement efforts (notably in China and Tajikistan[1]). Stock-piling could also be a factor that can explain this trend. Opium production may also not be a good indicator of supply. In fact, heroin seizures may arguably be a better indicator of heroin supply than opium production, especially for a consumer market that is removed from the production basin around Afghanistan, such as West and Central Europe.

Supply and law enforcement activities can not be separated, and assuming trends in supply solely on the basis of data on seizures can sometimes be misleading. This can also be seen by looking at the growth of opium seizures between 2005-2007. Although the trend is similar to opium production, the more rapid increase of seizures compared to production measures not only an increase in supply but most probably also an increased level of law enforcement activities.

Growth of opium production and opiate seizures, relative to 1997



Note: All quantities are expressed relative to 1997. Thus, for example, a value of 2.5 indicates that the quantity grew 2.5 times since 1997.

It is easy to compare levels and changes of seizures and production to understand how much information seizures can give on the increase or decrease of supply. However, this kind of analysis is not always possible, and in many situations, seizure totals are the best available indicators of supply. When information on seizures is supplemented with information on price, purity and consumption, more accurate conclusions can be made about the supply of illicit drugs. When only seizure data are used, there is a risk of overestimating or underestimating real changes in supply.

1 UNODC, Global Illicit Drug Trends 2003.

1.1.4 Consumption

In 2007 UNODC estimates that the total number of opiates users at the global level is between 15.2-21.1 million people. More than half of the world's opiates-using population are thought to live in Asia. The highest levels of use (in terms of the proportion of the population aged 15-64 years) are found along the main drug trafficking routes out of Afghanistan.

This year, significant revisions were made to the approach taken in making global and regional estimates of the number of people who use drugs. The new estimates reflect the uncertainties surrounding these data (which exist due to data gaps and quality) and are presented in ranges rather than absolute numbers. Because of this revision, previous point estimates are not comparable to the current ones.

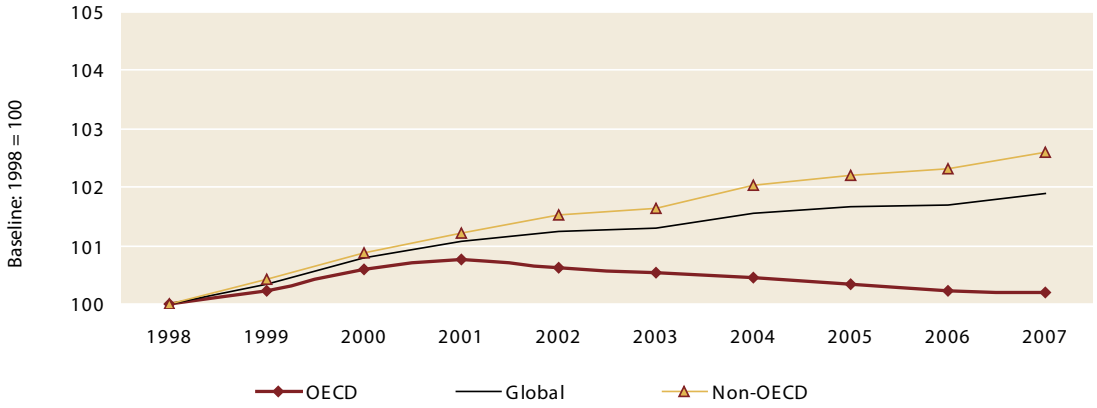
Table 3: Estimated number of people who used opiates at least once in the past year and proporton of population aged 15-64, by region, 2007

Note: 2007 estimates cannot be compared to previous UNODC estimates
Source: UNODC

Region/subregion	Estimated number of users (lower)	Estimated number of users (upper)	Percent of population aged 15-64 (lower)	Percent of population aged 15-64 (upper)
Africa	1,000,000	2,780,000	0.2	0.5
North Africa	120,000	490,000	0.3	0.4
West and Central Africa	550,000	650,000	0.3	0.4
Eastern Africa	100,000	1,330,000	0.1	1.0
Southern Africa	230,000	310,000	0.2	0.3
Americas	2,190,000	2,320,000	0.4	0.4
North America	1,310,000	1,360,000	0.4	0.5
Central America	20,000	30,000	0.1	0.1
The Caribbean	60,000	90,000	0.2	0.3
South America	800,000	840,000	0.3	0.3
Asia	8,440,000	11,890,000	0.3	0.5
East/South-East Asia	2,800,000	4,970,000	0.2	0.3
South Asia	3,620,000	3,660,000	0.4	0.4
Central Asia	340,000	340,000	0.7	0.7
Near and Middle East	1,680,000	2,910,000	0.7	1.2
Europe	3,440,000	4,050,000	0.6	0.7
Western/Central Europe	1,230,000	1,520,000	0.5	0.6
East/South-East Europe	2,210,000	2,535,000	0.8	0.9
Oceania	90,000	90,000	0.4	0.4
Global	**15,160,000**	**21,130,000**	**0.3**	**0.5**

Fig. 17: Opiate use trends as perceived by experts of developed (OECD) and developing (non-OECD) countries, 1998-2007 (baseline: 1998 = 100)

Sources: UNODC, Annual Reports Questionnaire Data, UNODC Field Offices, UNODC's Drug Use Information Network for Asia and the Pacific (DAINAP).



Opiate consumption may be falling in East and South-East Asia

In East and South-East Asia, it was estimated that 2.8-5.0 million persons aged 15-64 years used opiates in the past year. Use in China has been estimated at around 0.19-0.31% (1.8 to 2.9 million persons).[1] Higher levels have been reported in opium cultivation areas, including 1.1% in the Shan State and Kachin (Myanmar).[2]

Most countries of East and South-East Asia reported recent declines in opiate use, reflecting declining opium production in Myanmar and the Lao People's Democratic Republic. Heroin was still reported as the main problem drug in China (Hong Kong and Macao only), Indonesia, Malaysia and Myanmar, although reports suggested that heroin use may also be declining there. Opium use in northern Lao PDR is estimated to have declined from 0.6% (2006) to 0.4% (2008)[3]. In both Lao PDR and Myanmar, opium producing villages have much higher consumption than non-opium producing villages.

Opiates remain a prominent issue in Central and South West Asia

Opiate use remains the most prominent illicit drug problem in this region. Population surveys suggested that 1.4% used opiates in the past year in Afghanistan (in 2005), and 2.8% in the Islamic Republic of Iran (has an estimated 0.7 to 1.6 million so-called "drug addicts").[4] In Pakistan, injecting drug use is reportedly increasing;[5] one study estimated 630,000 opiate users in Pakistan, equivalent to 0.7% of those aged 15-64, around 77% of whom were heroin users.[6]

In the Central Asia[7] and the Caucasus subregion, opiate use is also thought to be above estimated global average levels, particularly in Kazakhstan (1%),[8] Kyrgyzstan (0.8%)[9] and Uzbekistan (0.8%).[10] Estimates for Tajikistan are slightly lower (0.5%). The HIV epidemic continues among primarily opiate-injecting drug users in the

1 Estimate derived from Lu F, Wang N, Wu Z, Sun X, Rehnstrom J, Poundstone K, et al. "Estimating the number of people at risk for and living with HIV in China in 2005: methods and results; Sex Transmitted Infections, June 2006, Vol. 82 Suppl 3, pp. iii 87-91, reported in: Mathers B, Degenhardt L, Phillips B, Wiessing L, Hickman M, Strathdee S, et al. Global epidemiology of injecting drug use and HIV among people who inject drugs: a systematic review. The Lancet 2008;372:1733-1745.

2 2008 UNODC Opium and Poppy Cultivation Report, South-East Asia. (December 2008)

3 Ibid.

4 Drug Control Headquarters of the Islamic Republic of Iran, Policies, Achievements, Ongoing Programs and Future Plans, Tehran 2007.

5 UNODC, Global Assessment Programme on Drug Use, Ministry of Narcotics Control of the Government of Pakistan, Anti-Narcotics Force of the Government of Pakistan. Problem Drug Use in Pakistan, Results from the year 2006 National Assessment. Tashkent, 2007.

6 UNODC and the Paris Pact Initiative, Illicit Drug Trends in Pakistan, April 2008. UNODC, Global Assessment Programme on Drug Use, Ministry of Narcotics Control of the Government of Pakistan, Anti-Narcotics Force of the Government of Pakistan. Problem Drug Use in Pakistan, Results from the year 2006 National Assessment. Tashkent, 2007.

7 UNODC, HIV/AIDS and injecting drug use in Central Asia: From evidence to action, 2007.

8 Ibid.

9 UNODC, HIV/AIDS and Injecting Drug Use in Central Asia: from Evidence to Action, Kyrgyzstan Country Report 2007

10 UNODC, HIV/AIDS and Injecting Drug Use in Central Asia: from Evidence to Action, Uzbekistan Country Report 2007.

Table 4: Expert perception of changing opiate use, by region, 2007

Sources: UNODC, Annual Reports Questionnaire data.* Identifies increases/ decreases ranging from either some to strong, unweighted by population.

Region	Member States responding	Use problem increased*	Percent use problem increased	Use problem stable	Percent use problem stable	Use problem decreased*	Percent use problem decreased
Africa	17	9	53%	6	35%	2	12%
Americas	12	7	58%	3	25%	2	17%
Asia	27	14	52%	4	15%	9	33%
Europe	31	8	26%	15	48%	8	26%
Oceania	0	0		0		0	
Global	**87**	**38**	**44%**	**28**	**32%**	**21**	**24%**

region, particularly marked across Uzbekistan,[11] Tajikistan[12] and Kyrgyzstan.[13] This is thought to be driven by the countries' proximity to major trafficking routes out of Afghanistan.

South Asia

India holds the largest opiate-using population in the subregion, estimated at around 3.2 million persons (estimated from a study conducted in the year 2000). There are few data on the size of opiate-using populations in this region; the most recent population survey - of Indian men - was conducted in 2000.

Some information on drug use has been obtained from samples of illicit drug users in countries across this region. These studies have suggested that heroin use is common among illicit drug users in Bangladesh[14] and India,[15] and buprenorphine injection[16] has been identified as a significant issue among Indian and Bangladeshi drug users. In Sri Lanka, in contrast, heroin smoking is more common – injection appears to rarely occur.

11 UNODC, HIV/AIDS and Injecting Drug Use in Central Asia: from Evidence to Action, Uzbekistan Country Report 2007.

12 UNODC, HIV/AIDS and Injecting Drug Use in Central Asia: from Evidence to Action, Tajikistan Country Report 2007

13 UNODC, HIV/AIDS and Injecting Drug Use in Central Asia: from Evidence to Action, Kyrgyzstan Country Report 2007

14 UNODC Regional Office for South Asia. (2008). Rapid Situation and Response Assessment of Drugs and HIV in Bangladesh, Bhutan, India, Nepal and Sri Lanka: A Regional Report.

15 Degenhardt L, Larance B, Mathers B, Azim T, Kamarulzaman A, Mattick RP, on behalf of the Reference Group to the United Nations on HIV and injecting drug use. Benefits and risks of pharmaceutical opiates: Essential treatment and diverted medication. A global review of availability, extra-medical use, injection and the association with HIV. Sydney: University of New South Wales, 2008.

16 It is important to note that large scale diversion of buprenorphine is at the factory/warehouse level (rather than diversion from patients or medical practitioners).

Near and Middle East: heroin use may be increasing but data are limited

In countries with available data in this region, heroin use is reported to have increased, with decreasing age of onset and increasing demand for treatment. Many countries, however, still lack essential capacity to collect and analyse data on drug use and drug treatment demand. There is a need to improve data in this region.

Europe holds the second largest population of opiate users; trends differ between western and eastern countries

Europe has an estimated 3.4-4.0 million opiate users (around 0.6-0.7% of the population aged 15-64): between 1.23-1.52 million estimated consumers in West and Central Europe, and between 2.21-2.53 million consumers (0.8-0.9%) in Eastern and South Eastern Europe. This region is the world's second largest opiate market in terms of quantities consumed, and the largest in economic terms.

The major populations of users in Western Europe are estimated to be in the United Kingdom (between 404-434,000 persons), Italy (305,000), France (171-205,000), Germany (76-161,000) and Spain (61-121,000).[17] According to expert perceptions, use of opiates remained stable or declined in this subregion. Data from the past decade similarly suggest stable levels of use, although some countries have reported increases in fatal overdoses and in first treatment entrants with heroin as the primary drug problem in recent years.

17 All of these estimates have been derived from estimates of the number of problem drug users because household surveys are not considered to provide good estimates on the number of heroin and other opiate users.

Fig. 18: Distribution of opiate users in the past year among Western European countries

Source: UNODC

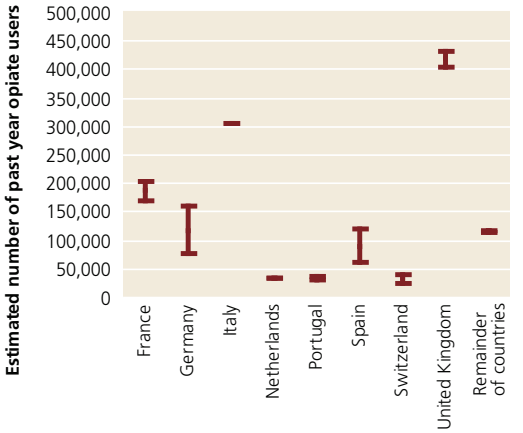


Fig. 19: Percentage of all US drug treatment admissions accounted for by heroin and other opiates

Substance Abuse and Mental Health Services Administration, Office of Applied Studies. Treatment Episode Data Set (TEDS) Highlights - 2007 National Admissions to Substance Abuse Treatment Services.

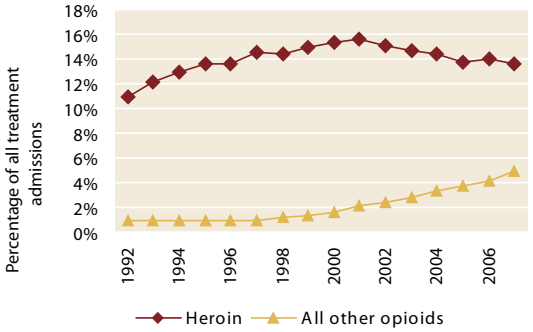
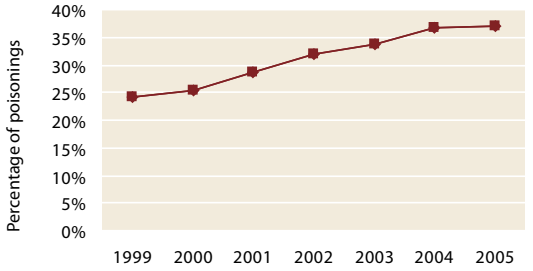


Fig. 20: Percentage of all US poisoning deaths where pharmaceutical opioids were mentioned

Warner, M., Chen, L-H., (2009). Drug poisoning mortality: Scope of the problem. CDC meeting on State Strategies for Preventing Prescription Drug Overdose. Atlanta, Jan 13, 2009.



The Russian Federation has the largest opiate-using population in Eastern Europe. Although estimates of the number vary substantially[18], some estimate there are 1.68 million opiate users in the country (1.6% of the population aged 15-64).[19] The second largest opiate using population in Eastern Europe is the Ukraine with between 323-423,000 opiate users (1-1.3%).

In 2008, perceived increases in opiate use were noted in Albania, Belarus, Croatia, and the Republic of Moldova. Specialised studies have estimated that injecting drug use is prevalent in many eastern European countries, and HIV is common among people who inject drugs.[20] This is particularly the case in the Russian Federation, the Ukraine, and Belarus, and there are reasons to be concerned about increasing problems in many other countries in the region where injecting is also occurring.[21]

18 This also reflects major differences on the estimates of total drug use in the Russian Federation. A review of estimates of the total number of drug users in the Russian Federation showed a range from 1.5 million to 6 million people (UNODC, *Illicit Drug Trends in the Russian Federation*, 2005. UNODC and the Paris Pact Initiative, *Illicit Drug Trends in the Russian Federation, April 2008.)*

19 The new estimate is based on registered drug users and a new treatment multiplier. 350,267 drug dependent patients were registered in 2006. Of these, 89% were opiate users (UNODC and the Paris Pact Initiative, *Illicit Drug Trends in the Russian Federation*, April 2008). The new national-level treatment multiplier is 5.3 (United Nations Office on Drugs and Crime, National Addiction Centre of the Russian Federation, *Dynamics of Drug-Related Disorders in the Russian Federation,* 2007).

20 UNODC, Global Assessment Programme on Drug Use (GAP), National Addiction Centre of the Russian Federation. Koshkina, E.A. (2007) Dynamics of Drug-Related Disorders in the Russian Federation (2008). Mathers B, Degenhardt L, Phillips B, Wiessing L, Hickman M, Strathdee S, et al. Ibid.

21 Mathers B, Degenhardt L, Phillips B, Wiessing L, Hickman M, Strathdee S, et al. *Ibid.*

Opioid consumption in the Americas: heroin use may be stable, but other opiate use is a significant issue

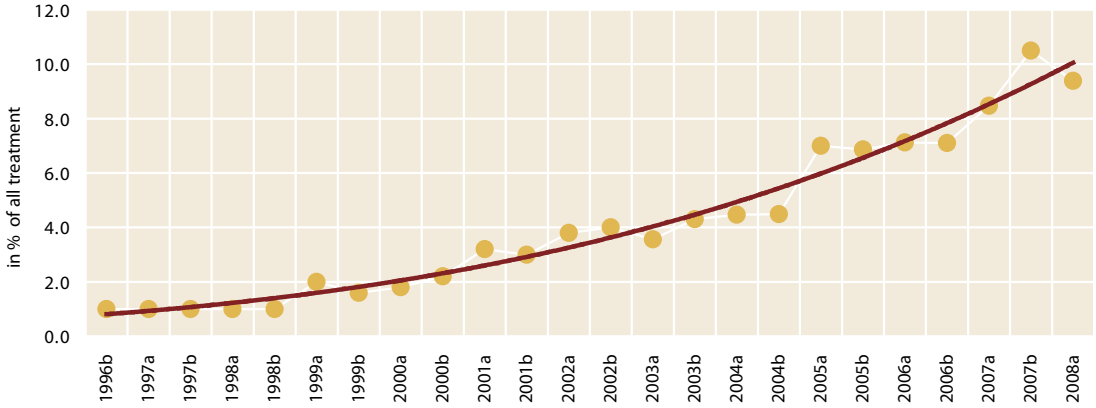
The largest heroin using population in this region is found in the USA, with one study estimating approximately 1.2 million heroin users (0.6% of the population aged 15-64;[22] derived from a study of "problem drug users" in 2000). The largest opioid using population in this region is also, by far, in the USA, with an estimated 5.2 million persons in 2007 reporting using prescription pain relievers non-medically (a level that has remained stable since 2002).[23] This reflects a very well-documented problem across the USA of inappropriate prescribing and use of pharmaceutical opiates (particularly

22 ONDCP, 2000.

23 SAMHSA, Results from the 2007 National Survey on Drug Use and Health, National Findings, (Rockville, Maryland, 2008).

Fig. 21: Percentage of all treatment admissions in South Africa for heroin, 1996-2008

Unweighted average of treatment (including alcohol) in 6 provinces. Source: SACENDU, "Monitoring Alcohol & Drug Use Trends in South Africa, July 1996 - June 2007", Research Brief, Vol. 10 (2), 2007.



oxycodone), leading to a new cohort of opiate-dependent persons across the country. Treatment admissions and poisoning deaths continue to increase.

The largest population of opioid users in South America is found in Brazil, with some 635,000 opioid users (0.5% of those aged 12-65). Most use synthetic opioids rather than heroin (less than 0.05%). Experts reported a stable trend of opioid use in multiple countries in the Americas, but rising levels of opioid use were reported in Mexico, Venezuela (Bolivarian Republic of) and Argentina.

Heroin use in Oceania appears stable

Data from the Oceania region reflect only Australia and New Zealand, with no reports from the numerous island nations. Data from drug monitoring systems in Australia and New Zealand suggest stable levels of use, with some 90,000 opiates users in the Oceania region. In Australia, these remain much lower than those seen in the late 1990s prior to the so-called Australian "heroin shortage", though there are indications that injecting drug users are increasingly injecting other opioids such as morphine.[24]

Heroin use may be rising in Africa

There may be between 1.00-2.78 million people using opiates in Africa – the wide range of this estimate reflects the uncertainty in the numbers. Comparatively high levels have been reported in Mauritius and Egypt[25]. Almost all opiate consumption is heroin, which is the primary drug among problematic drug users in countries such as Kenya, Mauritius, Nigeria, Tanzania and Zambia.[26,27,28]

Reported heroin use trends suggest that heroin consumption continues to rise in eastern and southern Africa and some western African countries. This reflects the increasing role of African countries as heroin transits from Afghanistan to Europe. Opiates are the second most common drug for treatment; greater opiate treatment demand exists in the eastern and southern parts of the continent.

Unfortunately, few countries of west and central Africa report drug use trends, and there are no accurate prevalence data. Data in Africa therefore primarily reflect countries in northern and southern Africa. South Africa is the only country with a drug use surveillance system (the South African Community Epidemiology Network on Drug Use (SACENDU). There is a continuing need for technical assistance in the region in order to build sustainable, cost-effective drug monitoring capacity.

24 E. Black, A. Roxburgh, L. Degenhardt, R. Bruno, G. Campbell, B. de Graaff, et al. Australian Drug Trends 2007: Findings from the Illicit Drug Reporting System (IDRS). Australian Drug Trends Series No. 1 National Drug and Alcohol Research Centre, University of New South Wales (Sydney, 2008).

25 Ghaz, I. National Study of Addiction, Prevalence of the use of Drugs and Alcohol in Egypt. (Cairo, 2007)

26 Abdool, R., Sulliman, F.T., Dhannoo, M.I. The injecting drug use and HIV/AIDS nexus in the Republic of Mauritius, African Journal of Drug & Alcohol Studies, 5(2), 2006

27 Deveau, C., Levine, B., Beckerleg, S. Heroin use in Kenya and findings from a community based outreach programme to reduce the spread of HIV/AIDS, African Journal of Drug & Alcohol Studies, 5(2), 2006

28 Timpson, S., McCurdy, S.A., Leshabari, M.T., Kilonzo, G.P., Atkinson, J., Msami, A. & Williams, M.L. Substance use, HIV risk and HIV/AIDS in Tanzania, African Journal of Drug & Alcohol Studies, 5(2), 2006

Injecting drug use and HIV

What is the extent of injecting drug use around the world?

Injecting drug use is well established in every region of the world and appears to be an emerging phenomenon in many countries where it has not been previously reported[1]. By 2008, injecting drug use had been reported in 148 countries and territories which together account for 95% of the world's population.

Estimates of the prevalence of injecting drug use were available for only 61 countries around the world; these countries make up 77% of the world's population. The prevalence of injecting drug use varies considerably, both between and within countries. Observed country-level prevalence of injecting drug use ranges from 0.02% in India and Cambodia to Georgia with 4.19% and Azerbaijan with 5.21%.

It is estimated that between 11–21 million people worldwide inject drugs. China, the USA, the Russian Federation and Brazil are estimated to have the largest populations of injecting drug users (IDUs) and together account for 45% of the total estimated worldwide population of IDUs.

What is the extent of HIV among people who inject drugs?

Injecting drug use is responsible for an increasing proportion of HIV infections in many parts of the world, including countries in Eastern Europe, South America and East and South-East Asia. Investment in comprehensive public-health interventions is required to address this.

HIV infection among people who inject drugs has been reported in 120 countries, and the prevalence of HIV among IDUs varies dramatically. Midpoint HIV prevalence is reported to be between 20 and 40% in five countries: Spain (39.7%); Russian Federation (37.2%); Viet Nam (33.9%); Cambodia (22.8%) and Libyan Arab Jamahiriya (22.0%); and is greater than 40% in a further nine: Estonia (72.1%); Argentina (49.7%); Brazil (48.0%); Kenya (42.9%); Myanmar (42.6%); Thailand (42.5%); Indonesia (42.5%); Ukraine (41.8%) and Nepal (41.4%).

HIV prevalence rates among IDUs also vary significantly within countries. For example, in China, reported HIV infections are concentrated within seven of the country's 22 provinces. Moreover, in Russia, the reported prevalence rates varied from 0.3% in Pskov, 12.4% in Moscow, 32% in St. Petersburg to 74% in Biysk.

It is estimated that between 0.8 and 6.6 million people who inject drugs worldwide are infected with HIV. Regions with the largest numbers and highest concentration of HIV-positive IDUs include Eastern Europe, East and South-East Asia, and Latin America. The prevalence of HIV is higher than 40% in many national and subnational injecting drug user populations in these regions.

Outside of sub-Saharan Africa injecting drug users make up a sizeable proportion of the total number of people living with HIV. In Eastern Europe and Central Asia, more than half of those living with HIV are IDUs.

The dynamics of the spread of HIV infection are notable. A decade ago, HIV was not identified among people who inject drugs in Estonia; by contrast, a more recent estimate now suggests that the prevalence of HIV infection has reached 72% in one sample of injecting drug users. In contrast, Australia and New Zealand have maintained very low levels of HIV infection (1.09% and 0.73% respectively) despite a higher prevalence of injecting drug use than some other countries. This difference has been attributed to geographic isolation, as well as the swift introduction of needle and syringe programmes and the expansion of opiate substitution treatment programmes after HIV infection was first documented in 1984.

1 This information was compiled, reviewed and published by the *Reference Group to the United Nations on HIV and injecting drug use* and published in *The Lancet* in September 2008. The Reference Group was established for the purpose of providing independent technical advice on HIV and injecting drug use to the United Nations Office on Drugs and Crime (UNODC), World Health Organization (WHO), the Joint United Nations Programme on HIV/AIDS (UNAIDS) Secretariat and relevant co-sponsors. The Reference Group currently comprises 24 experts from 20 countries, and includes clinicians, researchers in epidemiology and policy, and injecting drug user representatives. Further information is available at: www.iduRefGroup.com

Table 5: Regional and global estimates of prevalence and number of people who inject drugs and the prevalence and number who may be HIV positive, 2007

	Estimated number of people who inject drugs (range)	Estimated midpoint prevalence of injecting drug use	Estimated number of people who inject drugs and who are HIV positive (range)	Estimated midpoint prevalence of HIV among people who inject drugs
Eastern Europe	3,476,500 (2,540,000-4,543,500)	1.50%	940,000 (18,500-2,422,000)	27.04%
Western Europe	1,044,000 (816,000-1,299,000)	0.37%	114,000 (39,000-210,500)	10.90%
East and South-East Asia	3,957,500 (3,043,500-4,913,000)	0.27%	661,000 (313,000-1,251,500)	16.70%
South Asia	569,500 (434,000-726,500)	0.06%	74,500 (34,500-135,500)	13.08%
Central Asia	247,500 (182,500-321,000)	0.64%	29,000 (16,500-47,000)	11.81%
Caribbean	186,000 (137,500-241,500)	0.73%	24,000 (6,000-52,500)	12.90%
Latin America	2,018,000 (1,508,000-2,597,500)	0.59%	580,500 (181,500-1,175,500)	28.77%
Canada and USA	2,270,500 (1,604,500-3,140,000)	0.99%	347,000 (127,000-709,000)	15.29%
Pacific Island States and Territories	19,500 (14,500-25,000)	0.36%	500 (<250-500)	1.37%
Australia and New Zealand	173,500 (105,000-236,500)	1.03%	2,500 (500-6,000)	1.51%
Middle East and North Africa	121,000 (89,000-156,500)	0.05%	3,500 (1,500-6,500)	2.94%
Sub-Saharan Africa*	1,778,500 (534,500-3,022,500)	0.43%	221,000 (26,000-572,000)	12.43%
Extrapolated global estimates	15,861,500 (11,008,500-21,222,000)	0.37%	2,997,500 (764,000-6,589,000)	18.90%

*These numbers are extremely tenuous as they are based on very few countries in the region

Data on injecting drug use: challenges and limitations

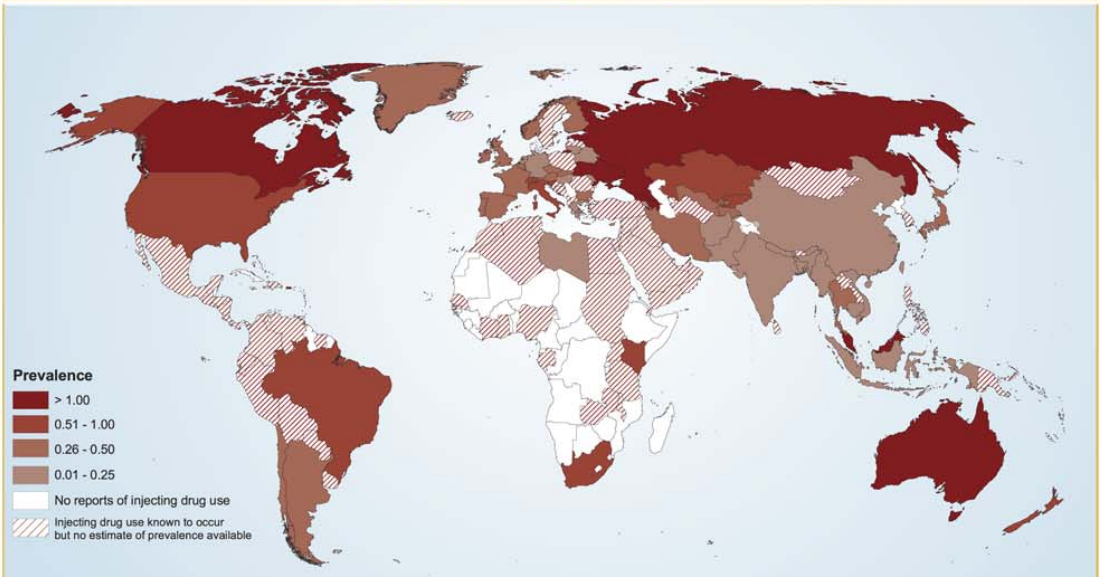
Currently only limited data exist on the prevalence of injecting drug use around the world and the quality of the available data is generally poor. The inadequacy of the available data makes it impossible to determine with any certainty how the extent of injecting drug use globally has changed over time

A lack of consistency in the definition of injecting drug use in the literature and different datasets makes reliable comparison between countries, and in some cases even within countries, impossible.

Injecting drug use is an illegal, stigmatised behaviour and consequently injecting drug users are often referred to as a "hidden population." It is difficult to measure the extent of this behaviour. Population surveys tend to underestimate its prevalence and indirect methods can also be uncertain.

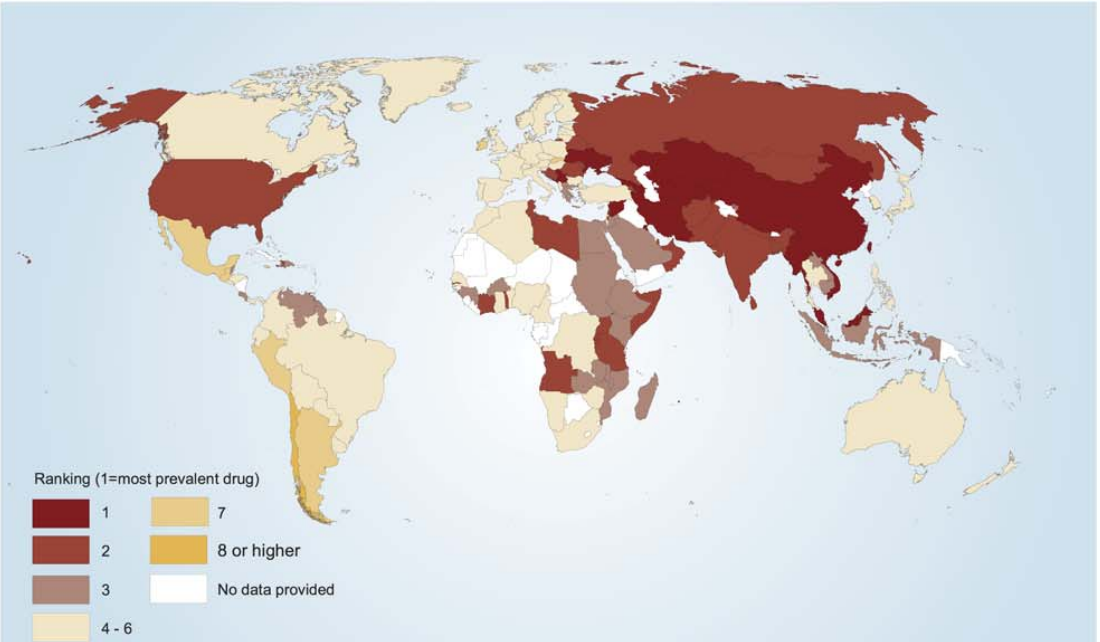
Collecting the data is technically challenging, particularly for developing countries. However, data from many higher income countries is also inadequate. For example, the most recent national estimates of injecting drug use for eight Western European countries were from the year 2000 or earlier. In order to plan and implement successful interventions to address injecting drug use and HIV, it is critical that consistent, timely data on the extent of injecting drug use and HIV among IDUs is collected.

Map 5: Prevalence (%) of injecting drug use among those aged 15-64 years



Note: The boundaries and names shown and designation used do not imply official endorsement by the United Nations.

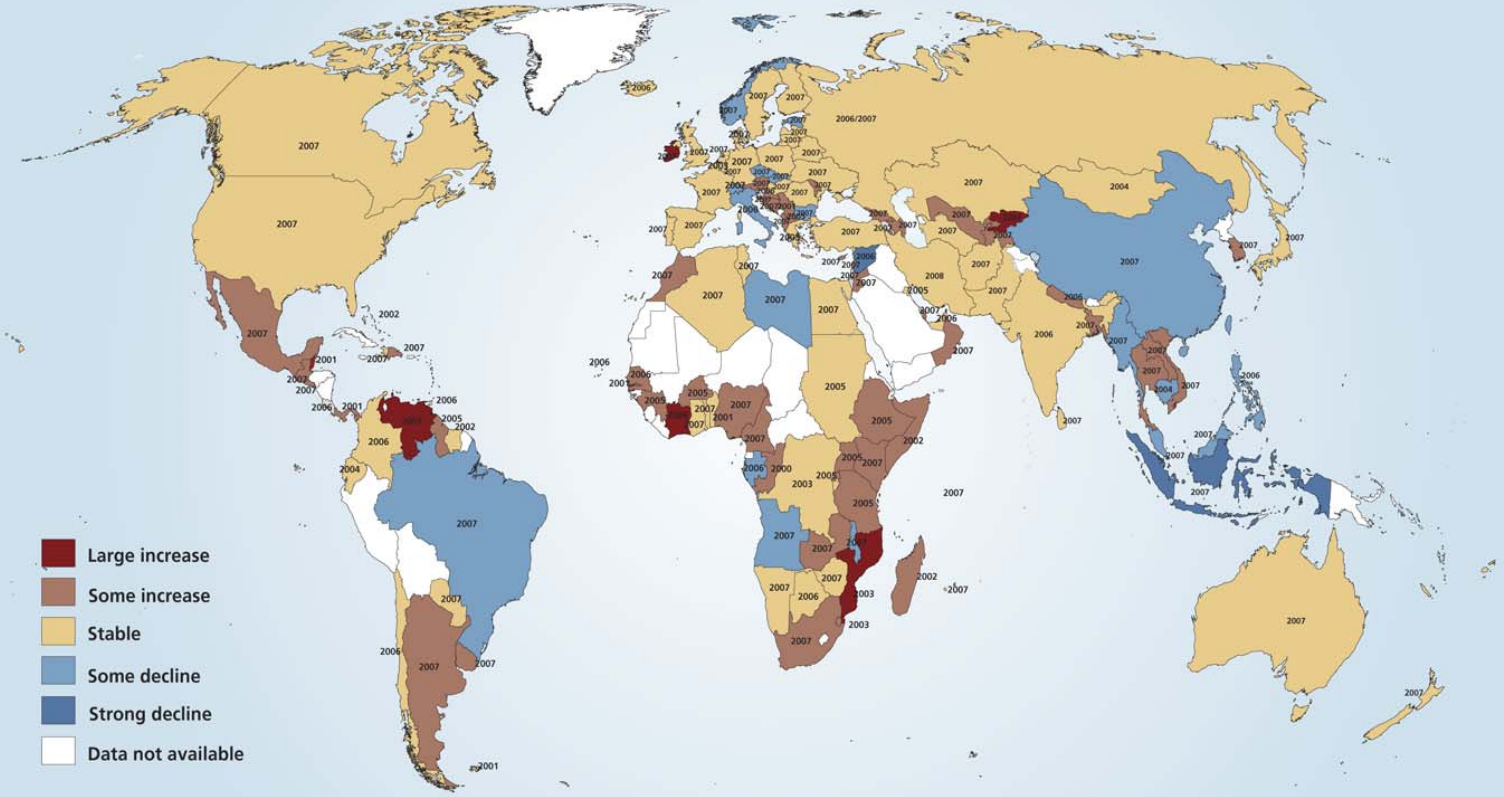
Map 6: Ranking of opiates in order of prevalence in 2007 (or latest year available)



Source: UNODC Annual Reports Questionnaires data/DELTA; Government Reports, US Department of State; European Monitoring Centre for Drugs and Drug Addiction (EMCDDA); Drug Abuse Information Network for Asia and the Pacific (DAINAP); UNODC Global Assessment Programme on Drug Abuse (GAP); Inter-American Drug Abuse Control Commission (CICAD); UNODC Rapid Assessment Studies, Council of Europe, ESPAD.

Note: The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.

Map 7: Changes in the use of heroin and other opiates, 2008 (or latest year available)



* Primary source: UNODC Annual Reports Questionnaires. For a few countries UNODC has based its perception on supplementary drug trend information derived from or reported in national household surveys, United States Department of State (Bureau for International Narcotics and Law Enforcement Affairs), International Narcotics Control Strategy Report, Law Enforcement Reports, UNODC, Meetings of Heads of Law Enforcement Agencies (HONLEA), UNODC Illicit Drug Trends publications for various countries, UNODC Opium Surveys, Drug Abuse Information Network for Asia and the Pacific (DAINAP), UNODC Global Assessment Programme on Drug Abuse (GAP), UNODC Data for Africa Project.

Note: The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.

Cutting agents for heroin in Afghanistan

Through improved forensic capacities and facilities, the forensic laboratory of the Counter Narcotics Police of Afghanistan (CNPA) was able to identify several cutting agents typically used for mixing with heroin.[1] The samples were seized during law enforcement activities in 2008. The chemicals identified include caffeine, chloroquine, phenolphthalein and paracetamol.

Users who smoke or inhale heroin draw some practical benefits if it is mixed with a certain amount of caffeine, as this causes the heroin to vaporize at a lower temperature.

Chloroquine, a well-known anti-malarial drug, has been used as a cutting agent in heroin for many years, though it was not previously known to be used in Afghanistan. Chloroquine does not alter the effects of heroin or influence the way it can be consumed. Its widespread availability, low price, colour and crystalline structure are thought to be some of the reasons for its use. Given the close resemblance in appearance and consistency of chloroquine with some seizures of what is known in South-West Asia as "crystal heroin", one could also speculate that the chloroquine was marketed on its own, as fake heroin.

"Crystal heroin"

Chloroquine

Phenolphthalein is used as an acid or base indicator. It has also been used as a laxative for more than a century, but has now been removed from the market because of concerns over carcinogenicity. It has been reported as a cutting agent for heroin in the past[2] but the reasons for its use are not well understood.

Paracetamol is a popular over-the-counter painkiller. It is easy to purchase and relatively cheap. Its mild analgesic properties and bitter taste may disguise a poorer quality heroin. The use of paracetamol as a cutting agent for heroin is well documented from many regions and countries.

The reason for adding specific, pharmacologically active substances (so-called adulterants) to heroin remains an area of speculation that can only be partly explained by the pharmacological properties of the substances concerned. However, the findings of the CNPA laboratory suggest that cutting of heroin takes place at source and that heroin produced in Afghanistan may be customized for different markets and consumer groups.

The findings are also a reminder that there is a frequently neglected market associated with the illicit drug industry: the market in cutting agents. This market is lucrative because cutting agents are legal and their trade carries low risk. The increased awareness of the potential value for drug enforcement of understanding the trade in these substances is very recent.[3]

1 http://www.unodc.org/pdf/scientific/LIB%20IV-2008_Kabul-.pdf

2 Chaudron-Thozet, H., Girard, J., and David, J.J. (1992), Analysis of heroin seized in France, *Bulletin on Narcotics*, Vol.1, 29-33.

3 Daly, M. (2008), Police target 'bash' industry, *DrugLink*, September/October 2008, 3.

1.2 Coca / cocaine market

1.2.1 Summary trend overview

In 2008, a significant decrease in Colombia, the world's largest cultivator of coca bush, brought the total area under coca cultivation down by some 8% to 167,600 ha. Total cultivation is close to the average level since 2002, and well below the levels reached in the 1990s. Similarly, the estimated global cocaine production also decreased in 2008, due to a strong reduction in Colombia. The Plurinational State of Bolivia and Peru both registered small increases in cultivation and production.

Compared to the record high in 2005, cocaine seizures decreased in 2007. The Americas account for the vast majority of the world's cocaine seizures, although a significant decline in trafficking towards North America, the world's largest cocaine consumer market, was reported in 2008. This decline was reflected in rapidly rising prices and falling purity levels.

North America also reported significant declines in cocaine use, notably from the USA. Following strong increases in recent years, a number of surveys in West European countries – including Spain - showed the first signs of a stabilization in 2008, whereas cocaine use still appears to be increasing in South America. The total number of people who used cocaine at least once in 2007 worldwide is estimated to range between 16 and 21 million.

1.2.2 Production

Cultivation

In 2008, the total area under coca cultivation decreased by 8% due to a significant reduction in Colombia (-18%), which was not offset by small increases in the Plurinational State of Bolivia (6%) and Peru (4%). The total area under coca cultivation decreased to 167,600 ha, which is well below the level reached in the 1990s. In spite of this decrease, Colombia remained the world's largest coca bush-cultivating country with 81,000 ha, followed by Peru (56,100 ha) and Bolivia (30,500 ha).

Most of the decrease of 18,000 ha in Colombia happened in the regions of Meta-Guaviare and Putumayo-Caquetá. However, a significant increase was observed in the Pacific region as well as in some smaller cultivation regions.

In 2008, the area under coca cultivation in Peru increased by 4% to 56,100 ha, the third, albeit relatively small, consecutive yearly increase. Peru remains the world's second largest coca bush-cultivating country.

The area under coca cultivation in the Plurinational State of Bolivia in 2008 increased by 6% to 30,500. Like in Peru, this was the third consecutive yearly increase. An expansion of the area under coca cultivation was observed in both large cultivation regions, the Yungas of La Paz and Chapare.

Although sizeable coca cultivation does not exist outside Bolivia, Peru and Colombia, eradication reports from Governments and media reports indicate that small-scale coca cultivation took place in other countries in the region in 2008.

Table 6: Global illicit cultivation of coca bush and production of coca leaf and cocaine, 1994-2008

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
CULTIVATION OF COCA BUSH IN HECTARES[a]															
Bolivia [b]	48,100	48,600	48,100	45,800	38,000	21,800	14,600	19,900	21,600	23,600	27,700	25,400	27,500	28,900	30,500
Colombia [c]	44,700	50,900	67,200	79,400	101,800	160,100	163,300	144,800	102,000	86,000	80,000	86,000	78,000	99,000	81,000
Peru [d]	108,600	115,300	94,400	68,800	51,000	38,700	43,400	46,200	46,700	44,200	50,300	48,200	51,400	53,700	56,100
Total	**201,400**	**214,800**	**209,700**	**194,000**	**190,800**	**220,600**	**221,300**	**210,900**	**170,300**	**153,800**	**158,000**	**159,600**	**156,900**	**181,600**	**167,600**
POTENTIAL PRODUCTION OF DRY COCA LEAF IN METRIC TONS[e]															
Bolivia [f]	89,800	85,000	75,100	70,100	52,900	22,800	13,400	20,200	19,800	27,800	38,000	28,200	33,200	36,400	39,400
Colombia [g]	67,500	80,900	108,900	129,500	165,900	261,000	266,200	236,000	222,100	186,050	164,280	164,280	154,130	154,000	116,900
Colombia (fresh coca leaf) [h]											552,800	555,400	528,300	525,300	389,600
Peru [i]	165,300	183,600	174,700	130,600	95,600	69,200	46,200	49,300	52,500	72,800	101,000	97,000	105,100	107,800	113,300
POTENTIAL MANUFACTURE OF COCAINE IN METRIC TONS[j]															
Bolivia [b]	255	240	215	200	150	70	43	60	60	79	98	80	94	104	113
Colombia [k]	201	230	300	350	435	680	695	617	580	550	640	640	610	600	430
Peru [l]	435	460	435	325	240	175	141	150	160	230	270	260	280	290	302
Total	**891**	**930**	**950**	**875**	**825**	**925**	**879**	**827**	**800**	**859**	**1,008**	**980**	**984**	**994**	**845**

(a) Potentially harvestable, after eradication.

(b) Sources: 1994-2002: CICAD and US Department of State, International Narcotics Control Strategy Report. For the region Yungas of La Paz since 2002, for all regions since 2003: National Illicit Crop Monitoring System supported by UNODC. Cocaine production: before 2003, see cultivation. Since 2003, own calculations, partly based on UNODC yield coca leaf yield surveys. Figures for 2004 and 2005 were revised in 2007 based on new information on coca leaf yield in the Yungas of La Paz.

(c) Sources: 1994-1998: CICAD and US Department of State, International Narcotics Control Strategy Report; since 1999: National Illicit Crop Monitoring System supported by UNODC.

(d) Sources: 1994-1999: CICAD and US Department of State, International Narcotics Control Strategy Report; since 2000: National Illicit Crop Monitoring System supported by UNODC.

(e) Refers to the potential dry coca leaf production available for cocaine production, i. e. after deducting the amount, which Governments report as being used for traditional or other purposes allowed under national law. In the absence of a standard definition of "dry coca leaf" and given considerable differences in the processing of the fresh coca leaf harvested, the figures may not always be comparable across countries.

(f) Since 2005, potential sun-dried coca leaf production available for cocaine production, estimated by the National Illicit Crop Monitoring System supported by UNODC. This figure does not include the estimated amount of coca leaf produced on 12,000 ha in the Yungas of La Paz where coca cultivation is authorized under national law.

(g) Sources: 1994-2002: CICAD and US Department of State, International Narcotics Control Strategy Report. Since 2003, potential coca leaf production available for cocaine production estimated by the National Illicit Crop Monitoring System supported by UNODC. Figures refer to oven-dried coca leaf equivalents.

(h) Since 2004, fresh coca leaf production figures are available based on coca leaf yield studies done by UNODC and the Government of Colombia. Similar to potential cocaine production, fresh coca leaf production in Colombia is calculated based on two-year area averages.

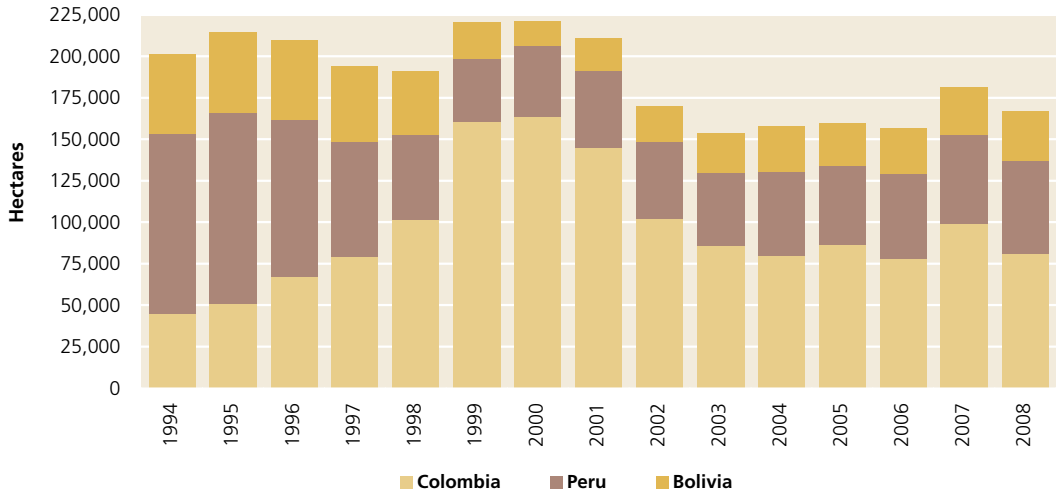
(i) Since 2003, potential sun-dried coca leaf production available for cocaine production, estimated by the National Illicit Crop Monitoring System supported by UNODC. For the calculation of coca leaf available for cocaine production, 9,000 mt of sun-dried coca leaf were deducted, which, according to Government sources, is the amount used for traditional purposes.

(j) Amounts of cocaine that could be manufactured from locally produced coca leaf (due to imports and exports of coca derivatives, actual amounts of cocaine manufactured in a country can differ).

(k) Since 2002, cocaine production is calculated based on the average area under coca cultivation of the reporting year and the previous year. This is thought to be closer to the actual amount produced than a figure solely based on the year-end cultivation. Colombian cocaine production estimates for 2004 and later are based on new research and cannot be directly compared with previous years. For the calculation of the 2008 cocaine production, new information on coca leaf yield available for some regions was used.

(l) Figures from 2003 to 2005 were revised in 2007 based on updated information available on the amount of coca leaf necessary to produce one kilogram of cocaine HCl.

Fig. 22: Global coca bush cultivation (ha), 1994-2008



Production

In 2008, the global potential cocaine production decreased by 15%, from 994 mt in 2007 to 845 mt in 2008. This is the lowest amount in the period 2004-2008, for which directly comparable figures are available. The decrease is due to a strong reduction in cocaine production in Colombia (28%), which was not leveled out by production increases in Bolivia and Peru. Colombia remained the world's largest producer of cocaine (51%) followed by Peru (36%) and Bolivia (13%).

Farm-gate prices

Sun-dried coca leaf

Farm-gate prices for sun-dried coca leaf increased in both the Plurinational State of Bolivia and Peru. As in the past years, in Bolivia, coca leaf prices were considerably higher than in neighbouring Peru. The prices reached levels of over US$ 6.0/kg in the Chapare region, a level last reached in 2002. In Peru, the simple average farm-gate price of sun-dried coca leaf traded outside the Government-controlled market was US$ 3.4/kg, over one third more than in 2007, compared to just US$ 1.7/kg for coca leaf traded under Government control.

Fig. 23: Global cocaine production (mt), 1994-2008

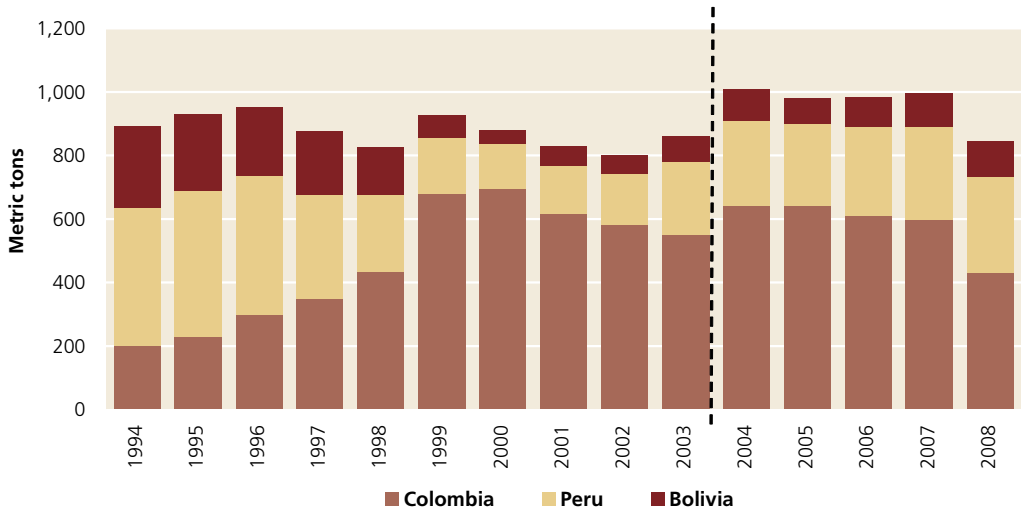
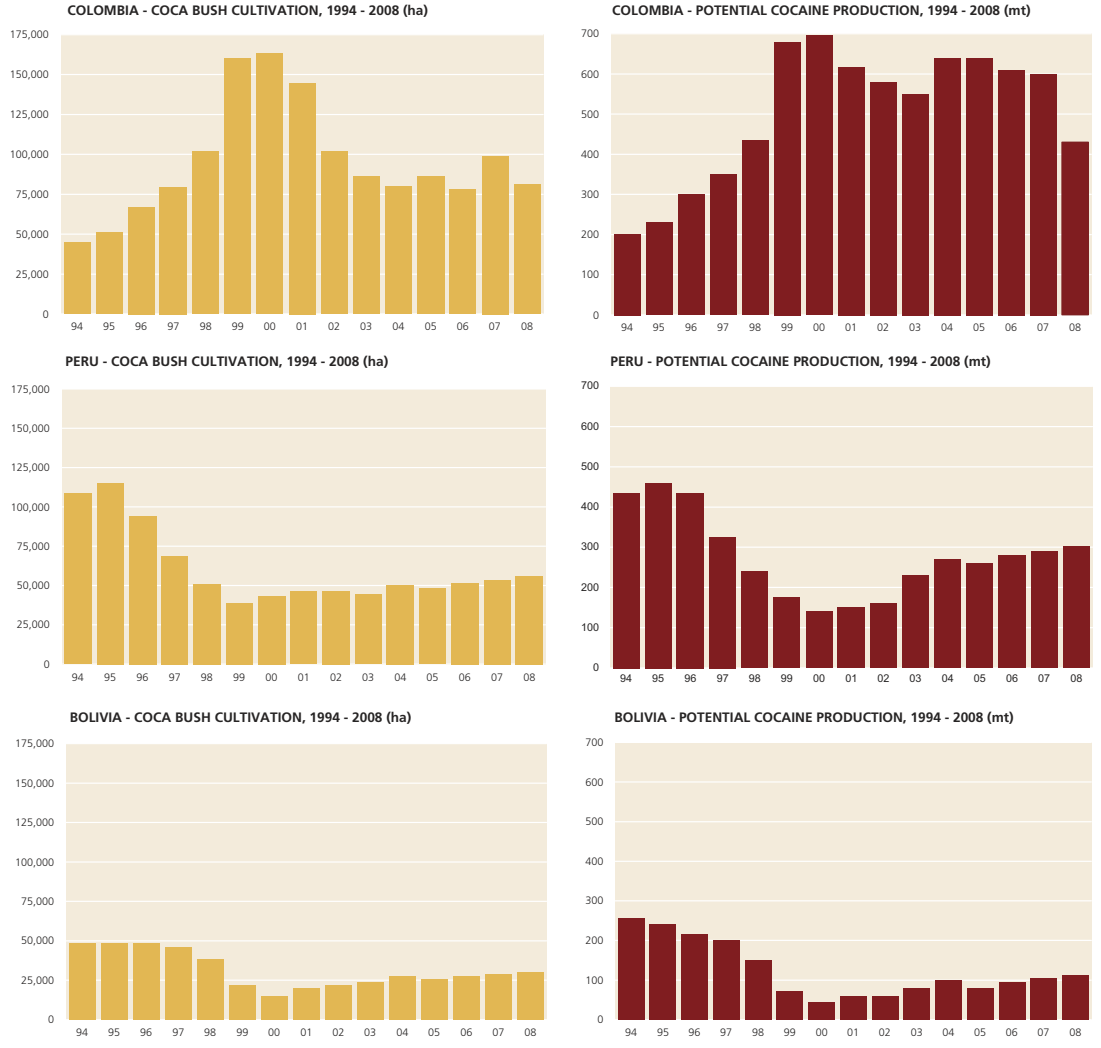


Table 7: Reported eradication of coca bush (ha), 1994-2008

Sources: Bolivia (Plurinational State of)/Colombia/Peru/Venezuela (Bolivarian Republic of): as reported by the respective Government. Ecuador: Comisión Interamericana para el Control del Abuso de Drogas (CICAD); US Department of State: *International Narcotics Control Strategy Report.*

		1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Bolivia	**manual**	1,100	5,493	7,512	7,000	11,620	15,353	7,653	9,395	11,839	10,089	8,437	6,073	5,070	6,269	5,484
Colombia	**manual**	1,033	1,487	4,057	2,262	3,126	1,046	3,495	1,745	2,762	4,219	6,234	31,980	43,051	66,805	95,634
	aerial spraying	3,871	23,915	18,519	41,861	66,029	43,112	58,073	94,153	130,364	132,817	136,552	138,775	172,026	153,134	133,496
Peru	**manual**			1,259	3,462	7,834	14,733	6,208	6,436	7,134	11,312	10,399	12,237	12,688	12,072	10,143
Ecuador	**manual**											4	18	9	36	10
Venezuela	**manual**	44	181	18	0	0	0	38	47	0	0	118	40	0	0	0

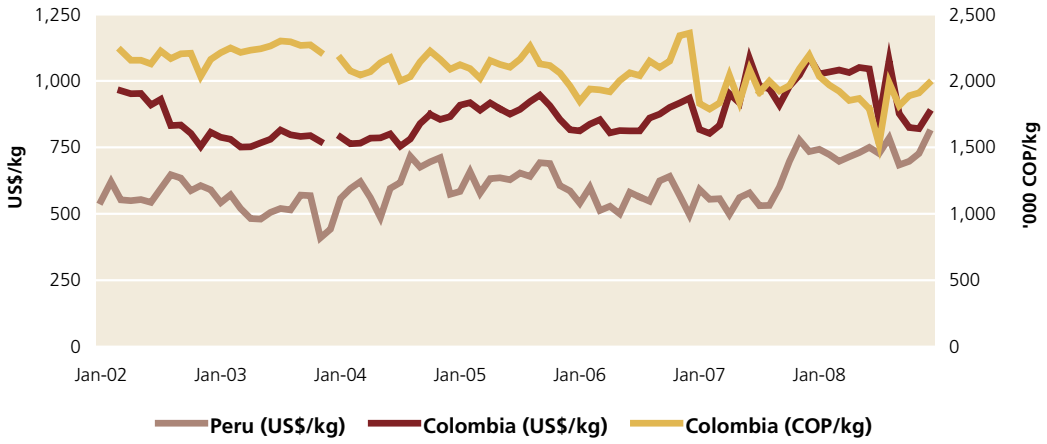
Fig. 24: Annual coca bush cultivation and cocaine production in main producing countries, 1994-2008



Estimates for Bolivia since 2003, for Colombia since 1999 and for Peru since 2000 come from national monitoring systems established by the respective Governments with the support of UNODC. Due to the change of methodology, these figures are not directly comparable with data from previous years. Colombian cocaine production estimates for 2004 and later are based on new research cannot be directly compared with previous years. For detailed source information, see Table: Global illicit cultivation of coca bush and production of coca leaf and cocaine.

Fig. 25: Monthly prices for coca paste in Peru and Colombia, 2002-2008

Sources: National monitoring system in Colombia and Peru supported by UNODC.



Fresh leaf

In Colombia, coca leaf is traded as fresh leaf, and the average per kilo price of fresh coca leaf decreased from COP 2,400,000/kg or US$ 1.2/kg in 2007 to COP 2,200,000/kg or US$ 1.1/kg in 2008. Converted into sun-dried coca leaf equivalents this would correspond to US$ 2.6/kg.

Coca paste and cocaine

Prices for coca paste and cocaine in different countries may not be directly comparable as little is known about their quality and composition. In Peru, the average farm-gate price of coca paste increased by 21% from US$ 600/kg in 2007 to US$ 723/kg in 2008. In Colombia, however, coca paste prices decreased in Colombian peso terms by 4% but increased slightly (by 2%) in US$ terms, from US$ 943/kg to US$ 963/kg as the Colombian peso gained strength against the US dollar. Wholesale prices for cocaine HCl increased in both Colombia (7%, in main cities) and Peru (10%, in producing regions) in US dollar terms.

As the availability of farm-gate prices differs from region to region and over the course of a year, small changes should be interpreted with caution.

Clandestine laboratories and precursors

In 2007, Governments reported the detection of 7,225 clandestine coca processing laboratories, compared to 7,060 laboratories reported for 2006.[1] Over 99% of the coca processing laboratories were located in the three coca cultivating countries. Bolivia and Peru also destroyed large numbers of coca maceration pits, which are typically found in coca cultivation regions to produce coca paste.[2] In 2007, a small number of cocaine laboratories was reported from other Latin American countries such as Chile (5), Ecuador (1) and Mexico (1). In previous years, similarly small numbers of laboratories were reported from countries such as Argentina, Brazil and the Bolivarian Republic of Venezuela. Outside Latin America, the highest number of laboratories detected was reported by Spain (18), followed by the USA (3).

Potassium permanganate is believed to be essential for cocaine manufacturing and large amounts are required each year in coca producing countries. In 2007, 15 countries reported seizures of potassium permanganate totaling 153.3 mt, of which Colombia seized 144 mt. The Colombian authorities also dismantled 4 clandestine potassium permanganate laboratories, from which they seized almost 45 mt of substance, which may suggest that it is becoming more difficult to import or divert potassium permanganate from the licit to the illicit market. Peru reported the seizure of 1,5 mt of potassium permanganate in 2007. The large amount of seizures and the detection of potassium permanganate laboratories in coca producing countries may indicate that traffickers have found ways to circumvent international control mechanisms, for example, by diverting potassium permanganate from domestic trade, by smuggling or by clandestine manufacturing.[3]

1 The 2006 figure was updated from originally 6,390 laboratories based on additional reports received from Governments.

2 An extract of the leaves of the coca bush. Purification of coca paste yields cocaine.

3 International Narcotics Control Board, E/INCB/2008/4.

Fig. 26: Coca bush cultivation 2008 (in % of global total)

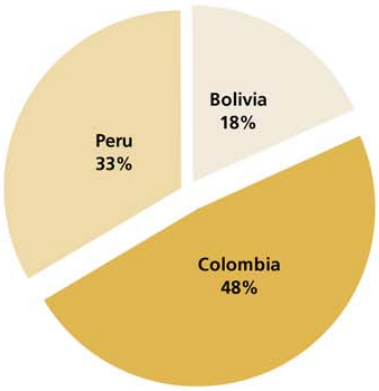
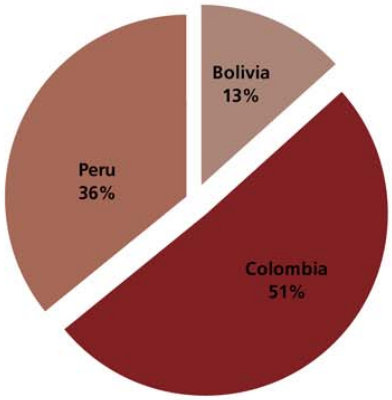
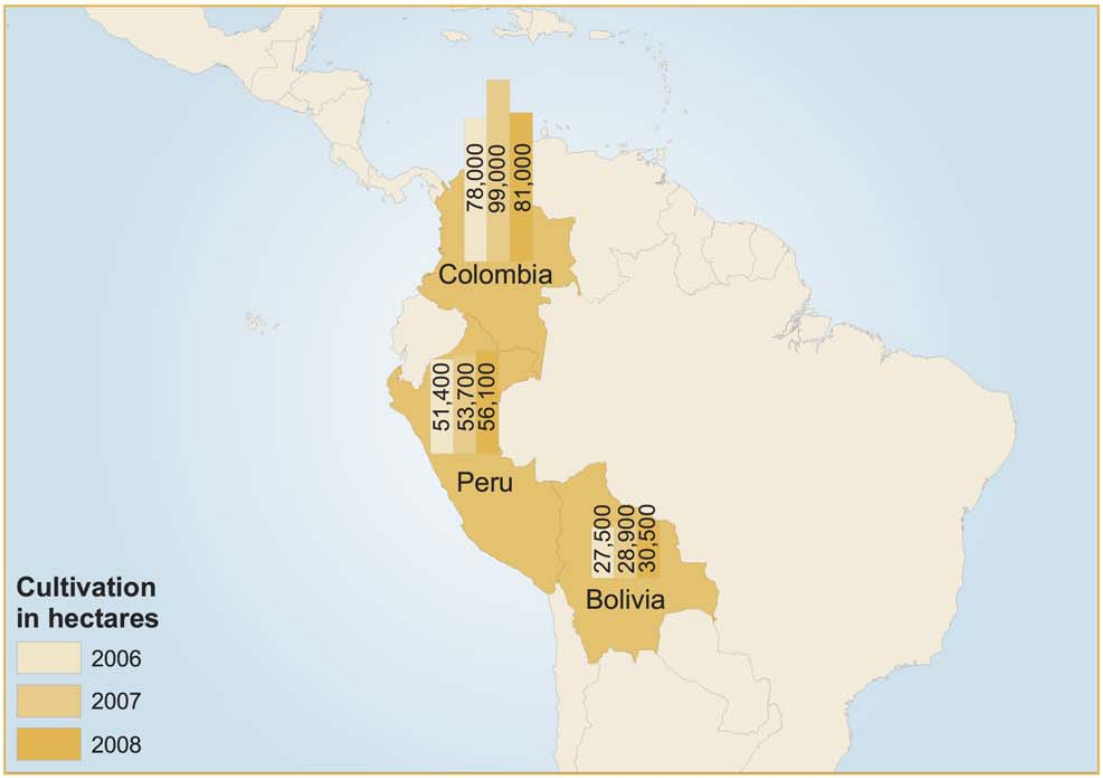


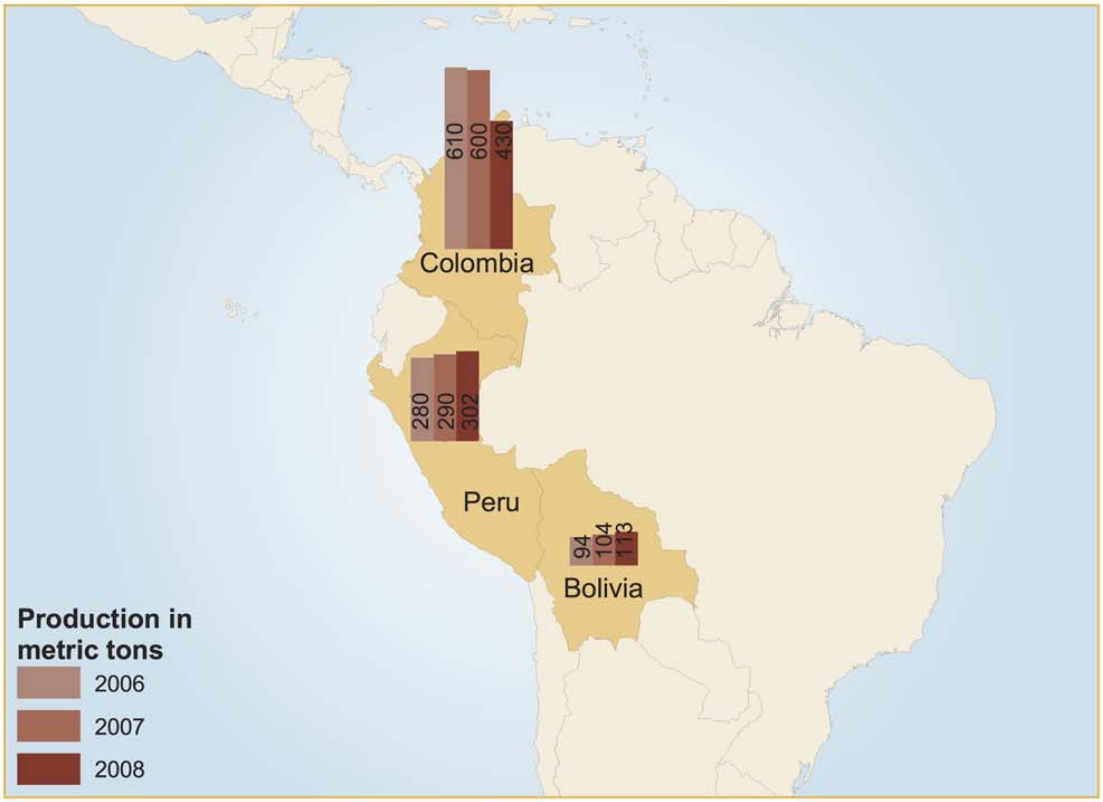
Fig. 27: Potential cocaine production 2008 (in % of global total)



Map 8: Coca bush cultivation, 2006-2008



Map 9: Potential cocaine production, 2006-2008



1.2.3 Trafficking

Global cocaine seizures fell in 2006 but remained largely unchanged in 2007

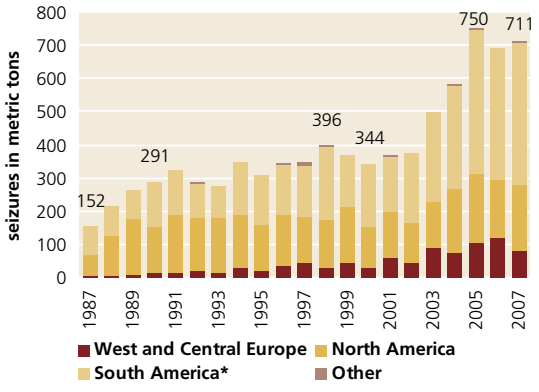
Global seizures of cocaine base, salts and crack cocaine (reported at street purity levels) fell slightly from the record high of 750 mt in 2005 to 711 mt in 2007, a decrease of some 5%. This was similar to the level in 2006 (693 mt), thus halting the strong upward trend reported in recent years. Nonetheless, cocaine seizures in 2007 were twice as high as in 2000 (344 mt). The strong increases in cocaine seizures were not triggered by an increase in production. It can, however, be explained by a strengthened commitment to fight the trafficking of cocaine, particularly in the region where it is produced. The share of South America, Central America and the Caribbean in total cocaine seizures rose from 32% in 1989 to 60% in 2007.

The global cocaine interception rate remains high

In 2007, the global cocaine interception rate[1] was above the 40% benchmark for the third year in a row. It was calculated at 41.5% for the year 2007,[2] that is, practically the same as in 2006 and 2005 (around 42%). The interception rate was 23% in 1990 and 29% in 1998.

Fig. 28: Global cocaine seizures, 1987-2007

* including Caribbean and Central America
Source: UNODC, Annual Reports Questionnaire Data / DELTA.



1 Calculated as the rate of total seizures over the total production.

2 The global interception rate of 41.5% was calculated on the basis of a global cocaine production of 994 mt in 2007 and global seizures of 711 mt at street purity. Given a global average cocaine purity of 58% in 2007 (as reported in the ARQ) this is equivalent to pure cocaine seizures of some 412 mt (or 41.5% of global cocaine production).

There is a potential problem of double counting seizures, particularly when more than one law enforcement agency is involved[3] (for example, customs and police in the same country, or police/customs from different countries). Considering this potential double counting, the 'actual' interception rate could be lower than the one reported above.

Cocaine seizures remain concentrated in the Americas and, to a lesser extent, in Europe

In 2007, most of the cocaine was again intercepted in the Americas (88%), followed by Europe (11%).

South America accounted for 323 mt (45%) of global cocaine seizures in 2007. More than 60% of seizures in South America were reported by Colombia. Large seizures in this region were also reported by the Bolivarian Republic of Venezuela (32 mt) and Ecuador (25 mt).

Substantive cocaine seizures in South America were also made by the Plurinational State of Bolivia (18 mt), Brazil (17 mt), Peru (14 mt), Chile (11 mt) and Argentina (8 mt). Seizures increased in Bolivia but declined in Peru. Overall cocaine seizures in the Southern Cone countries (Argentina, Chile, Brazil, Paraguay and Uruguay) rose from 10 mt in 2000 to 38 mt in 2007. This reflects the growing importance of these countries for cocaine trafficking to satisfy domestic demand and to re-export cocaine to various overseas destinations in Europe, Africa and the Pacific region.

Central America and the Caribbean, two major cocaine transit regions, accounted for 15% of global seizures. The vast majority of seizures in 2007 was reported by Central American countries (97 mt) while seizures in the Caribbean subregion (7 mt) continued to decline.

North America reported 28% of global cocaine seizures (199 mt). The largest seizures were reported from the USA (148 mt), followed by Mexico (48 mt).

Europe reported 11% of global cocaine seizures; 99% by countries in West and Central Europe. Spain reported the largest seizures in Europe (38 mt). The rest of the world reported only 1 % of global cocaine seizures in 2007.

3 The risk of double counting seizures has increased in recent years due to the increased cooperation in fighting cocaine trafficking across countries and law enforcement agencies.

Declining trafficking of cocaine towards North America, the world's largest cocaine market

Cocaine trafficked to North America typically originates in Colombia and reaches the USA through Mexico, either directly by speed boats or via countries such as the Bolivarian Republic of Venezuela, Ecuador and Panama. Most of the cocaine (close to 70%) is estimated to be transported via the Eastern-Pacific route towards Mexico and some 20% via the Western Caribbean route.[4]

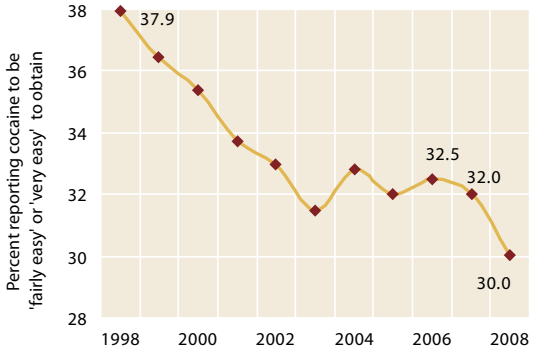
North America, notably the USA, reported some of the most striking declines of cocaine trafficking in 2007. This trend became even more pronounced in 2008. On average, federal US seizures fell from more than 13 mt per quarter in 2006 to less than 10 mt per quarter over the first six months of 2008. A strong decline of 40% was observed at the US-Mexican border.[5]

In parallel, Mexico saw a major decline of cocaine seizures from 48 mt in 2007 to 19 mt in 2008; a reduction of some 60%. Both Mexico and the US reported that this decline was linked to a strong decrease in cocaine trafficking.[6] There are no indications that the reductions are related to less enforcement efforts.[7]

A number of indicators showed that cocaine availability decreased in the USA in 2007 and 2008.[8] For one, law enforcement agencies and interagency analysis coordinated by the National Drug Intelligence Center indicated that the large US cocaine markets experienced a substantial cocaine shortage in 2007[9] and during the the first quarter of 2008. Secondly, the number of emergency department visits related to cocaine abuse declined in the great majority of the cities in the first quarter of 2008, compared to 2006.[10] Thirdly, the workplace testing results revealed a strong decline in the use of cocaine in 2008.[11] Finally, the 'Monitoring the Future' high school surveys found an ongoing decline of perceived cocaine availability after 2006; the decline became more pronounced in 2008.[12]

Fig. 29: Availability of cocaine reported by US high school students,* 1998-2008

*unweighted average of 8th, 10th and 12th grade students reporting that it is 'fairly easy' or 'very easy' to obtain cocaine.
Source: NIDA, *Monitoring the Future*



The most striking data indicating a shortage of cocaine in the US market relate to the changes in cocaine prices and purity in 2008. While street prices increased, purity decreased. The purity of cocaine declined from an average of 69.7% in the fourth quarter of 2006 to 43.9% in the fourth quarter of 2008. As a result, the average purity-adjusted prices (retail and wholesale) more than doubled, from an average of US$89 per gram in the fourth quarter of 2006 to US$200 in the fourth quarter of 2008. This is the sharpest increase seen in the USA in recent years.

The flow of cocaine towards Europe may have started to decline

In 2007, European cocaine seizures declined by some 35%, from 121 to 79 mt, the lowest total since 2004. Individual drug seizures reported by European countries suggest that the downward trend may have continued in 2008.

The decline in 2007 was primarily due to lower seizure totals reported by Portugal, Spain and France and, to a lesser extent, by lower totals in Belgium, Sweden, Italy, the Netherlands, Iceland and Finland. Overall, 15 European countries recorded declining levels of cocaine seizures in 2007.

At the same time, 27 countries reported higher levels of cocaine seizures compared to the year before, mostly smaller countries and/or countries of Central, Eastern and South-Eastern Europe. This suggests that cocaine

4 National Drug Intelligence Center, *National Drug Threat Assessment 2009*, December 2008.

5 *Ibid.*

6 UNODC, Annual Reports Questionnaire Data.

7 The Mexican Government substantially increased supports for its security forces and the justice sector in 2008. This resulted, inter alia, in the arrest of a number of drug kingpins of the various Mexican drug cartels (Source: US State Department, *2009 International Narcotics Control Strategy Report*, March 2009). Increased efforts were also reported by the United States which continuously increased its federal drug control budget for domestic law enforcement over the 2000-2008 period from $2 bn to $3.8 bn and for interdiction from $1.9 bn to $3.2 bn; the overall federal drug control budget rose from $9.6 to $13.7 bn. (Source: ONDCP, *National Drug Control Strategy FY 2009 Budget Summary*).

8 Cocaine shortages were most evident in the Great Lakes, New England and the Mid-Atlantic regions, as well as in the cities of Atlanta, Los Angeles, Phoenix and San Francisco.

9 ONDCP, *National Drug Control Strategy, 2008 Annual Report*, February 2008.

10 National Drug Intelligence Centre, *National Drug Threat Assessment 2009*, December 2008.

11 *Ibid.*

12 NIDA, *Monitoring the Future – 2008 Data from In-School Surveys of 8th- 10th- and 12th-Grade Students.*

Fig. 30: USA, cocaine prices and purity, 2005-2008

Source: DEA, *System To Retrieve Information on Drug Evidence (STRIDE)*, April 2009, quoted in ONDCP, "What can Europe learn from the US experience of policy-related drugs monitoring?", presentation to the EMCDDA Conference, "Identifying Europe's Information Needs for Effective Drug Policy", Lisbon, May 6-8, 2009.

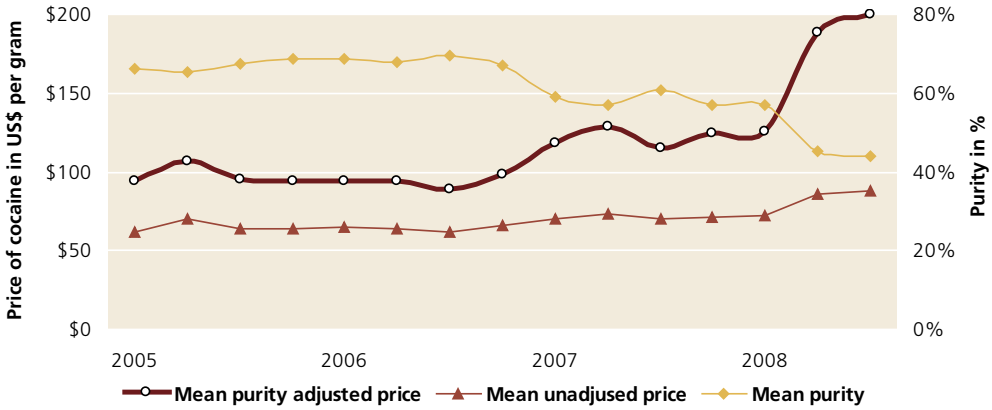
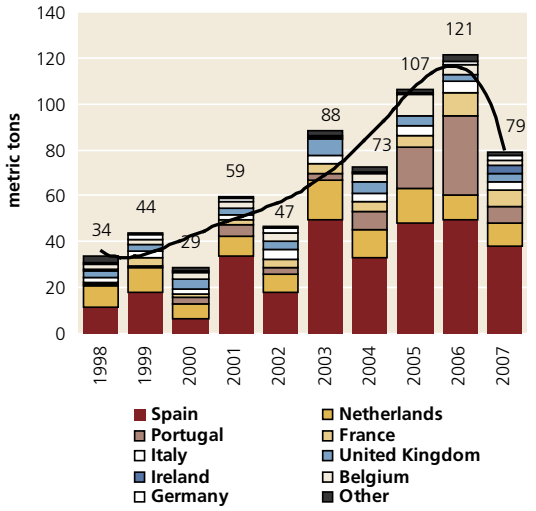


Fig. 31: Cocaine seizures in Europe, 1998-2007

Source: UNODC, Annual Reports Questionnaire.



trafficking is spreading in geographical terms as new routes are being explored, even though the overall trafficked volumes towards Europe seem to have declined.

The most frequently mentioned country of origin of the cocaine trafficked to Europe is Colombia (48% of countries reported Colombia as the source country for their seizures), followed by Peru (30% of countries) and the Plurinational State of Bolivia (18% of countries). The most frequently reported transit countries were the Bolivarian Republic of Venezuela and Ecuador. In addition, the Dominican Republic, Brazil, Argentina and Chile were mentioned, as well as some Western African countries.

According to UNODC's individual drug seizures database the most important cocaine transit country in 2007 in volume terms was the Bolivarian Republic of Venezuela (40%). If the origin of the individual cocaine seizure cases is analyzed - as opposed to seizures in volume terms - the most important cocaine transit countries for Europe in 2007 were the Dominican Republic (11%), Argentina (9%) and Brazil (8%). African countries accounted for 32% of the total, but this share declined in 2008.

Cocaine prices increased in Western Europe in 2007, both in euro and in dollar terms, suggesting that falling cocaine seizures in 2007 were a consequence of lower trafficking flows. Retail prices rose from on average US$82 per gram in 2006 to US$92 per gram in 2007. Retail prices in dollar terms were at their highest level since 1998 (in euro terms since 2002). However, the increase was less pronounced once inflation – as measured by the consumer price index – was taken into account.

Average wholesale prices rose from some US$47 per gram in 2006 to US$56 per gram in 2007. Once inflation is considered, the wholesale prices of 2007 (in euro) were at their highest level since 1997.

Drug price changes can be misleading unless additional information on changes in purity is taken into account. Unfortunately, such information is not systematically collected, analyzed and reported by most European countries.

One exception is the UK – Europe's largest cocaine market - where information of changes in purity is made available on a quarterly basis. The results of forensic analyses show that the mean cocaine purity declined in the UK from 2006 to the first quarter of 2009, at both wholesale retail levels.[13] The average cocaine purity in

13 Customs seizures reflect mainly the import-wholesale level; seizures

Fig. 32: Average cocaine retail and wholesale prices* in Western Europe, 1990-2007

* average price, weighted by population.
Source: UNODC, Annual Reports Questionnaire.

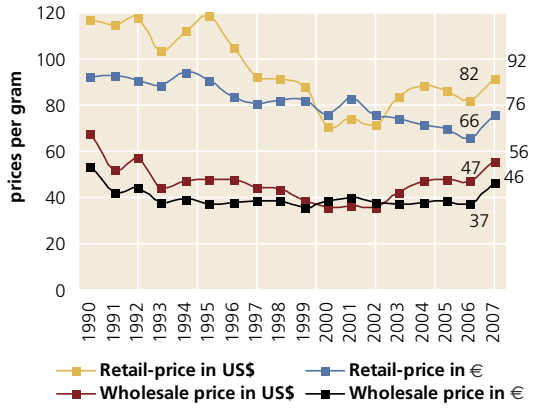


Fig. 33: Mean purity of cocaine seized in the UK, 2004-2009

Source: Forensic Science Service

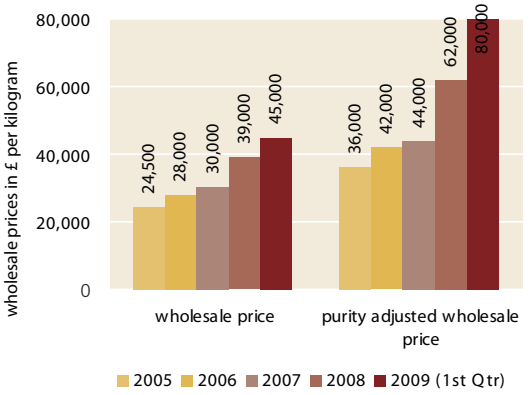
police seizures fell from 32% in 2007 to 23% in the first quarter of 2009 while the purity of cocaine seized by the customs declined from 67% in 2007 to 56% in the first quarter of 2009.[14] Almost a third of police seizures now have purity levels of less than 9%, and in some small-scale seizures at the retail level, purity levels were as low as 4%-5% in the first quarter of 2009. This indicates that purity-adjusted cocaine prices in the UK rose, despite the stable retail prices.[15]

The increased dilution of cocaine within the UK also suggests the establishment of large international trafficking activities in cutting agents which are usually legal substances when they are not used to adulterate cocaine. The Serious Organized Crime Agency (SOCA) seized some 15 mt of such cutting agents over the last year, which is more than the amount of cocaine seizures reported by the UK to UNODC.[16]

The cocaine wholesale prices rose over the same period from some £30,000 per kg in 2007 to £45,000 per kg in the first quarter of 2009 according to data collected by SOCA in the UK.

Fig. 34: Average cocaine wholesale prices per kg in the UK in £, 2005-2009

Sources: UNODC, Annual Reports Questionnaire Data (2005-2007), SOCA price data (2008 and 2009) and UK Forensic Science Service.



Trafficking of cocaine via Africa, notably Western Africa, showed an upward trend until 2007…

In 2007 total cocaine seizures amounted to 5.5 mt in Africa, a more than seven-fold increase since 1998. But the cocaine seized in Africa (0.8% of global seizures in 2007) is still a very modest percentage as compared to the likely cocaine trafficking flows affecting the continent.

Out of 26 African countries reporting their 2007 drug seizures to UNODC, 25 reported seizures of cocaine. Only two countries reported falling levels of seizures in 2007, while the remaining 23 reported a rising trend.

Over the 1998-2002 period, annual cocaine seizures in Africa were very limited and concentrated in Southern Africa. After 2003, cocaine seizures increased sharply and

made by the police reflect the domestic wholesale as well as the domestic retail level.

14 Forensic Science Service Data.

15 The purity-adjusted wholesale prices (based on Customs purities) increased from around £44,000 per kg of 100% pure cocaine in 2007 to around £80,000 in the first quarter of 2009, equivalent to an increase of some 80%.

16 Frequently found cutting agents for cocaine in the UK are benzocaine and lignocaine - normally used to relive pain in the dentistry and veterinary fields - which mimic some of the anaesthetic effects of cocaine. These are not easily identified by retail customers. (Source: Representative of the Serious Organized Crime Agency (SOCA) at the conference: "Identifying Europe's information needs for effective drug policy", 6-8 May 2009.)

Fig. 35: Cocaine seizures in Africa, 1998-2007[17]

Sources: UNODC, Annual Reports Questionnaire Data.

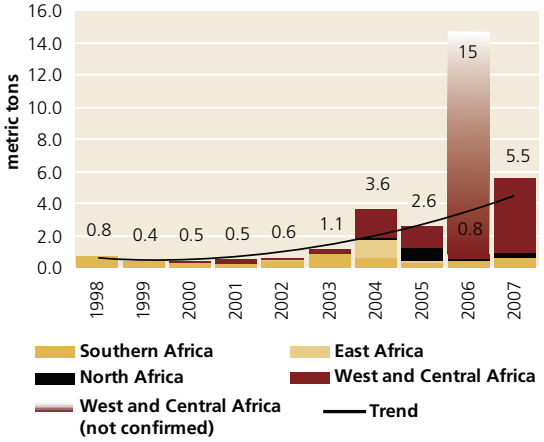
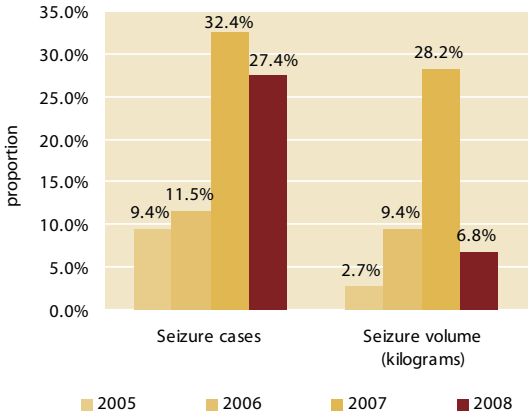


Fig. 36: Proportion of cocaine seized in Europe that transited Africa, 2005-2008

Source: UNODC, Individual Drug Seizures Database



concentrated mostly in Western Africa, reflecting the rising importance of this region for transit of cocaine.

In 2007, 83% of total seizures of cocaine in Africa were reported in West and Central Africa, 12% in Southern Africa, 5% in Northern Africa and 0.3% in Eastern Africa. The largest seizures in 2007 were reported by Senegal (2.5 mt). The cocaine found in Africa originated mainly in Colombia and Peru and frequently transited through Brazil. There is, however, significant trafficking of cocaine across the continent. The main African transit countries in 2007 (in terms of cocaine seized in other African countries) were Cape Verde, Guinea, Mali, Guinea-Bissau, Ghana, Benin, Togo, Gambia and Nigeria, all in West Africa.

….but the importance of Africa as a cocaine transit region appears to have declined in 2008 and in the first quarter of 2009

According to UNODC's individual drug seizure database, in 2008, there has been a substantive decline in the percentage of seizures transiting Africa, from 28% in 2007 to 7% in 2008. The decline can also be seen in the number of seizures. No large seizures which can be traced back to Africa have been reported to UNODC in the first quarter of 2009. In 2008 there was a strong decline in European seizures with Africa as the source, as well as a general decline of European seizures.

Other sources seem to confirm the downward trend after 2007. From 1990 to 2007, there was a large increase in the share of cocaine couriers from Africa detected in European airports. While in 2007, 28% of cocaine couriers were African, in 2008, this share decreased to 17%.[18]

Signs of stabilization in Oceania in 2008

Though cocaine seizures in the Oceania region are still very small (0.6 mt or 0.1% of global seizures in 2007), they showed a clear upward trend after 2005. Australia accounted for more than 99% of the cocaine seizures made in the Oceania region in 2007.[19]

The expansion of cocaine supply and the resulting downward trend in cocaine prices noted in 2006/07, however, does not seem to have continued in 2008. The Australian Customs Services reported seizures of 0.6 mt in both 2006/07 and 2007/08. Moreover, cocaine availability as well as cocaine prices remained basically stable in 2008 according to information collected from a panel of injecting drug users and other key informants in Australia. [20]

Cocaine seizures are still limited in Asia, in spite of some subregional increases

Cocaine seizures reported to UNODC from Asia amounted to 400 kg in 2007, equivalent to 0.06% of global seizures. The largest cocaine seizures in Asia were reported from Hong Kong, China (200 kg in 2007, up from 15 kg in 2006), followed by the Syrian Arab Republic (77 kg in 2007, up from 2 kg in 2006). Other

17 Cocaine seizures reported in 2006 and 2007 are not comparable. 2006 data included one major seizure of more than 14 mt which – after follow-up analysis it appeared that no psychoactive ingredients could be identified. Excluding the 14 ton seizure, total African seizures appear to have markedly increased in 2007.

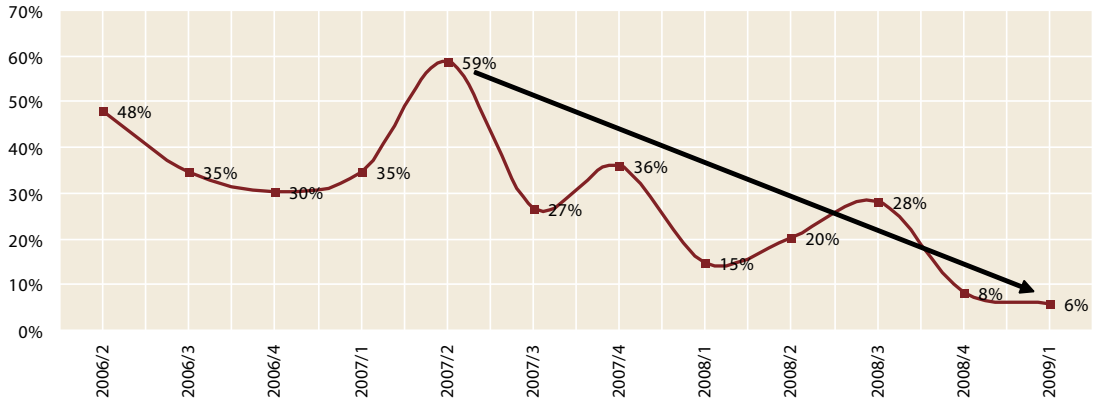
18 UNODC, *Transnational trafficking and the rule of law in West Africa: A threat assessment.* Vienna: UNODC, 2009 (forthcoming).

19 Australian Crime Commission, *Illicit Drug Data Report 2006-07*, revised edition, March 2009.

20 National Drug and Alcohol Research Centre (NDARC), *Australian Drug Trends 2008 – Findings from the Illicit Drug Reporting System (IDRS)*, Sydney 2009.

Fig. 37: Share of detected cocaine couriers whose flight originated in West Africa

Source: UNODC, Transnational trafficking and the rule of law in West Africa: A threat assessment. Vienna: UNODC, 2009 (forthcoming).



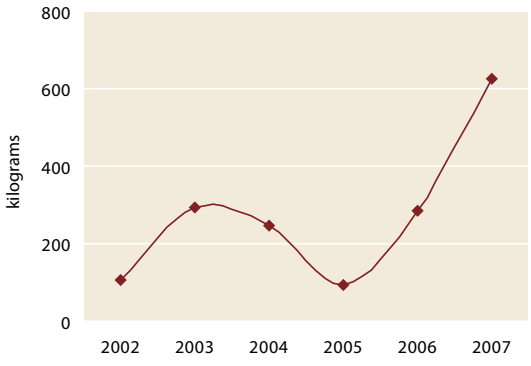
countries and territories reporting cocaine seizures in Asia included - in order of importance - Israel, Japan, Thailand, Malaysia, the Islamic Republic of Iran, India, Jordan, Pakistan, Lebanon, Taiwan Province of China, Kazakhstan, Indonesia, Armenia, the Palestinian Territory, the Republic of Korea, the Philippines and Georgia.

Out of the 43 Asian countries and territories that reported drug seizures to UNODC in 2007, 19 reported seizures of cocaine. No cocaine seizures were reported by the People's Republic of China (excluding Hong Kong) in 2007. However some 530 kg of cocaine were, seized in one single case in June 2008 in Guangzhou.[21]

The largest increase of cocaine seizures in 2007 was reported by the countries of the Near and Middle East (from 72 kg in 2006 to 141 kg in 2007).

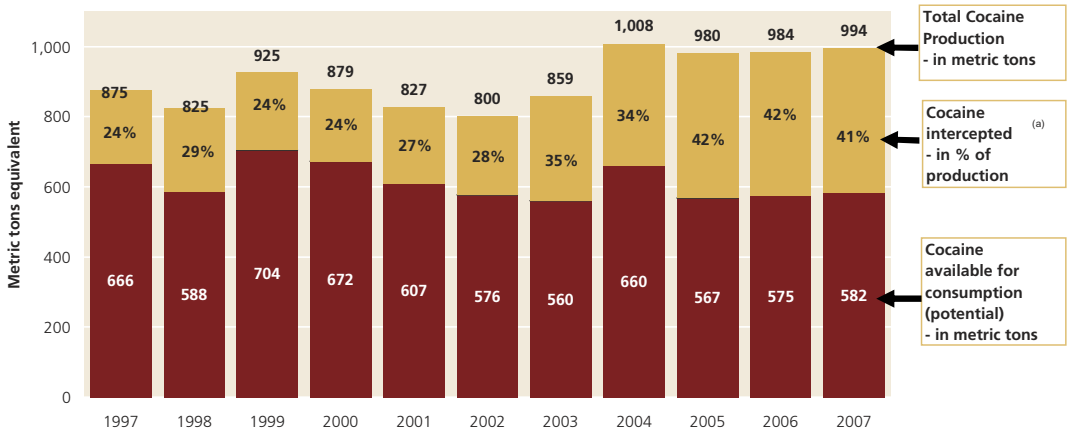
Fig. 38: Cocaine seizures in the Oceania region, 2002-2007

Source: UNODC, Annual Reports Questionnaire Data.



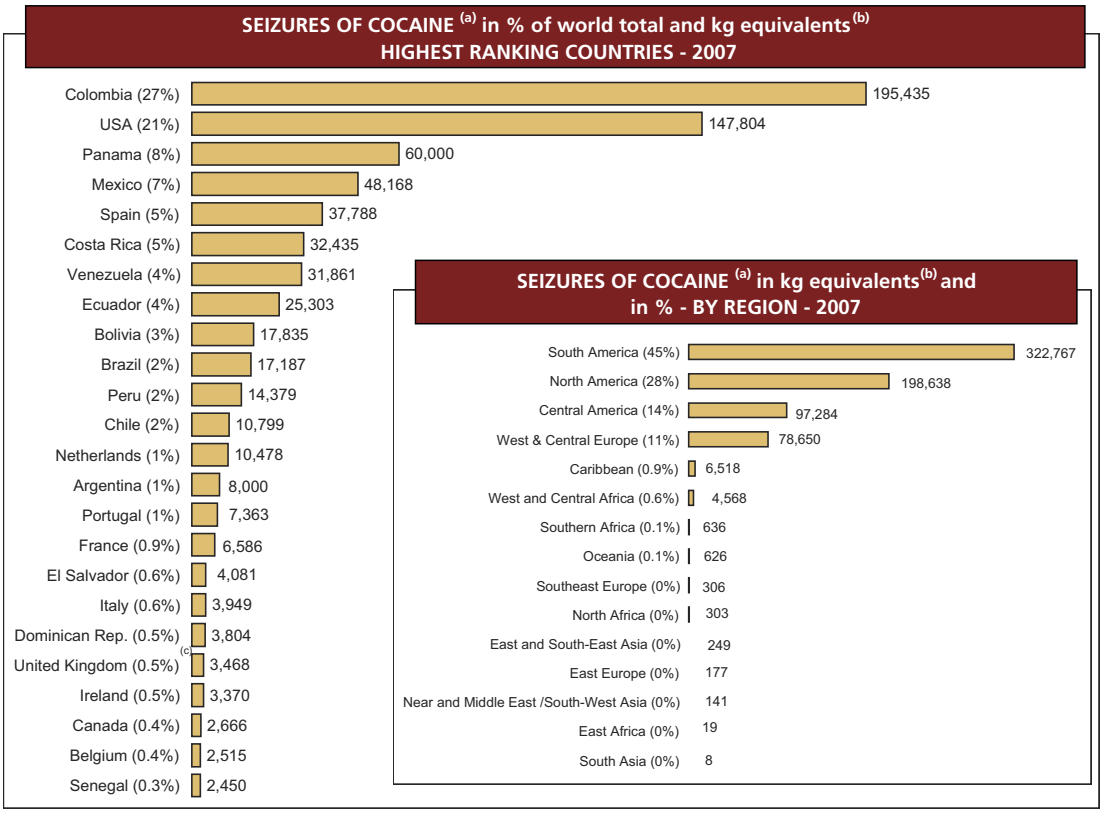
21 US State Department, *2009 International Narcotics Control Strategy Report*, March 2009.

Fig. 39: Global illicit supply of cocaine, 1997-2007



[a] Seizures as reported (street purity).

[b] Includes cocaine HCl, cocaine base, crack cocaine, and other cocaine types.



[a] Includes cocaine HCl, cocaine base, crack cocaine, and other cocaine types.

[b] Seizures as reported (street purity)

[c] Data refer to England and Wales only.

Fig. 40: Global seizures of cocaine, 1997-2007

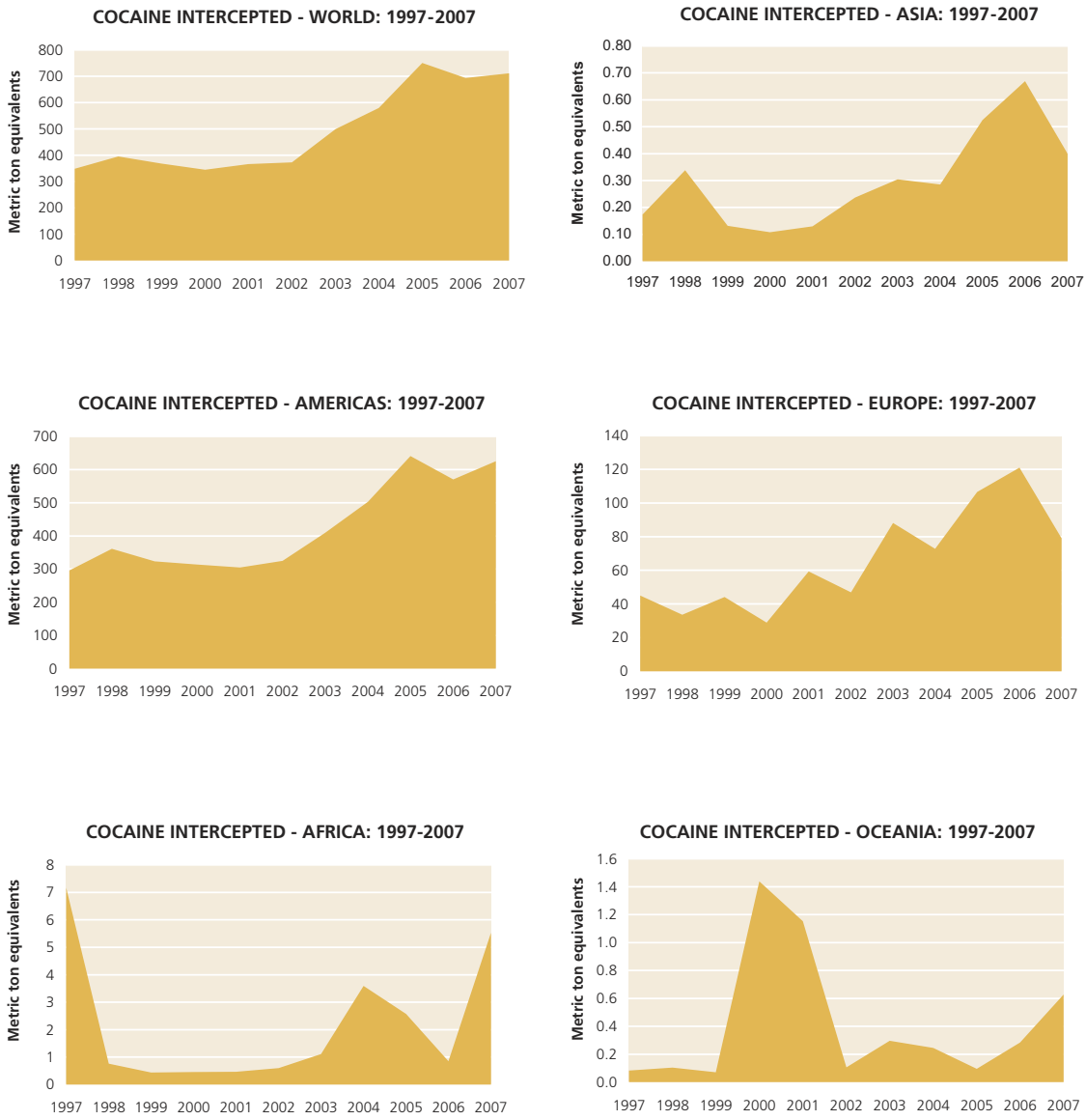
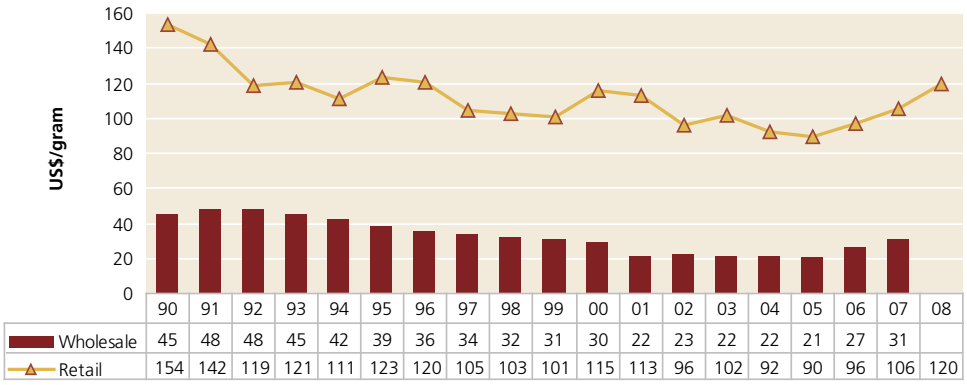
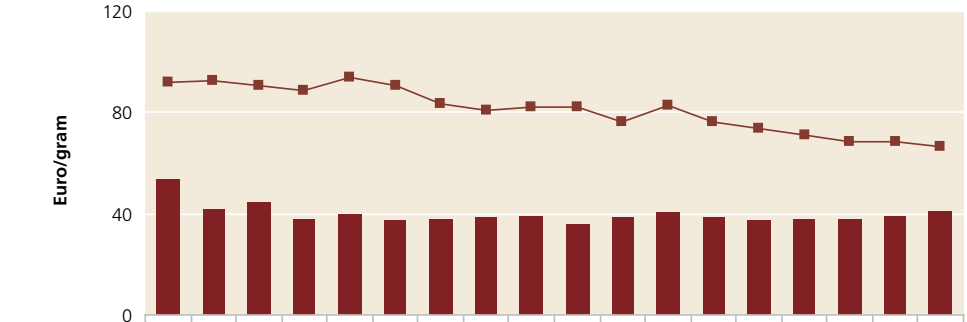


Fig. 41: USA: Cocaine retail and whole sale prices, 1990-2008 (US$/gram)



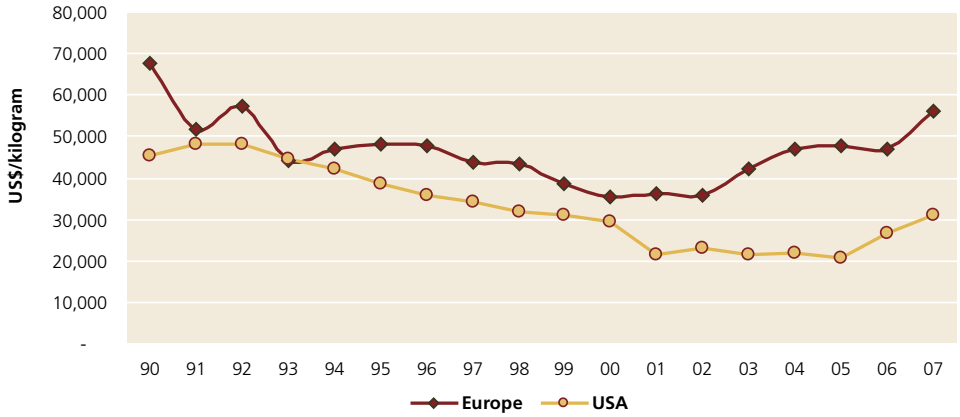
	90	91	92	93	94	95	96	97	98	99	00	01	02	03	04	05	06	07	08
Wholesale	45	48	48	45	42	39	36	34	32	31	30	22	23	22	22	21	27	31	
Retail	154	142	119	121	111	123	120	105	103	101	115	113	96	102	92	90	96	106	120

Fig. 42: WESTERN EUROPE: Cocaine retail and wholesale prices, 1990-2007, €/gram

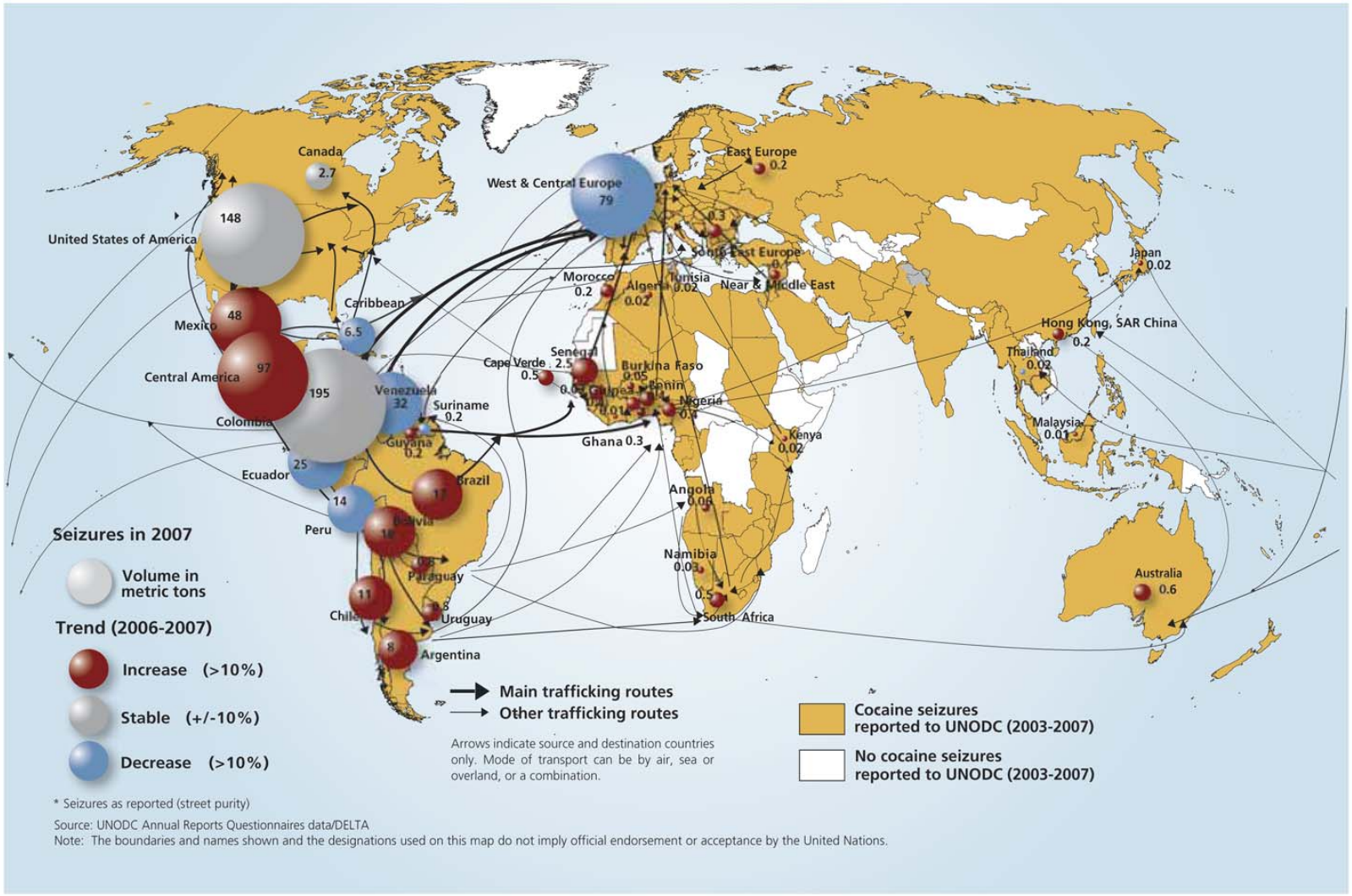


	90	91	92	93	94	95	96	97	98	99	00	01	02	03	04	05	06	07
Wholesale	53	42	44	38	40	37	38	39	39	36	38	40	38	37	38	38	39	41
Retail	92	93	91	89	94	91	83	81	82	82	76	83	76	74	71	69	68	67

Fig. 43: Wholesale cocaine prices in Western Europe and the USA, 1990-2007, US$/kg



Map 10: Trafficking in cocaine, 2007 (countries reporting seizures* of more than 10kg)



* Seizures as reported (street purity)

Source: UNODC Annual Reports Questionnaires data/DELTA

Note: The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.

1.2.4 Consumption

In 2007, UNODC estimates that the annual prevalence of cocaine use worldwide ranges from 15.6 to 20.8 million people, equivalent to 0.4% to 0.5% of the population aged 15-64. The new estimates – like those reported for previous years - suggest that the largest market is still North America, followed by West and Central Europe and South America.

This year, significant revisions were made to the approach taken in making global and regional estimates of the number of people who use drugs. The new estimates reflect the uncertainties surrounding these data (which exist due to data gaps and quality) and are being presented in ranges rather than absolute numbers. Because of this revision, previous point estimates are not comparable to the current ones.

Table 8: Estimated number of people who used cocaine at least once in the past year and proporton of population aged 15-64, by region, 2007

Region/subregion	Estimated number of users annually (lower)	Estimated number of users annually (upper)	Percent of population aged 15-64 (lower)	Percent of population aged 15-64 (upper)
Africa*	1,150,000	3,640,000	0.2	0.7
North Africa	30,000	50,000	0.0	0.0
West and Central Africa	750,000	1,320,000	0.4	0.8
Eastern Africa	Subregional estimate cannot be calculated			
Southern Africa	300,000	820,000	0.3	0.8
Americas	9,410,000	9,570,000	1.6	1.6
North America	6,870,000	6,870,000	2.3	2.3
Central America	120,000	140,000	0.5	0.6
The Caribbean	170,000	250,000	0.7	1.0
South America	2,250,000	2,310,000	0.9	0.9
Asia	400,000	2,560,000	< 0.1	0.1
East/South-East Asia	310,000	990,000	< 0.1	0.1
South Asia	Subregional estimate cannot be calculated			
Central Asia	Subregional estimate cannot be calculated			
Near and Middle East	Subregional estimate cannot be calculated			
Europe	4,330,000	4,600,000	0.8	0.8
Western/Central Europe	3,870,000	3,880,000	1.4	1.4
East/South-East Europe	460,000	720,000	0.2	0.3
Oceania	340,000	390,000	1.5	1.7
Global	**15,630,000**	**20,760,000**	**0.4**	**0.5**

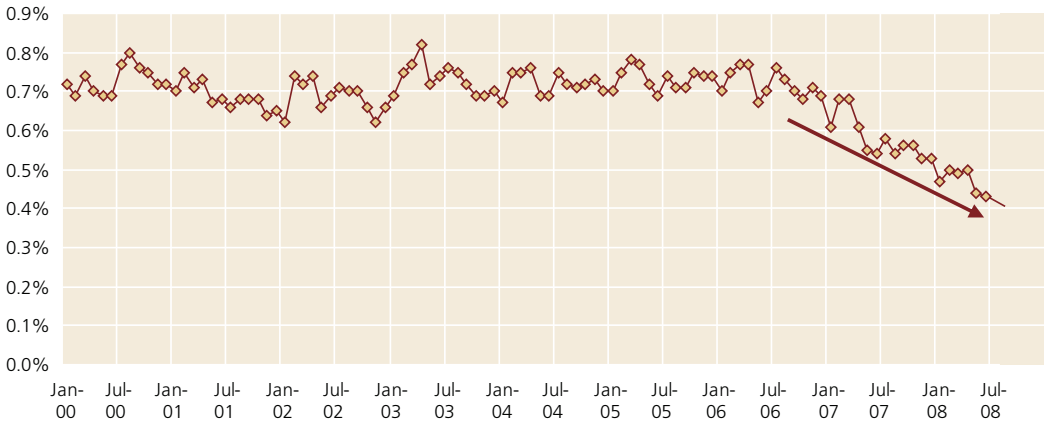
* The estimates for Africa and its subregions are the most problematic because of the lack of data for most countries. This is reflected in the wide ranges calculated. The problem is particularly acute for Eastern Africa where the is an almost total lack of data.

Cocaine use is falling strongly in North America

Significant declines in cocaine use were reported in North America, notably from the USA, which in absolute numbers is still the world's largest cocaine market. Cocaine was used at least once in the last year by some 5.8 million people in the USA in 2007, equivalent to an annual prevalence rate of 2.8% of the population aged 15-64. The monthly prevalence rate (use at least once in

Fig. 44: US national workforce: percentage testing positive for cocaine, 2000-2008

Source: Quest Diagnostics, "Quest Diagnostics Drug Testing Index" (June 2008), quoted in ONDCP, *Making the Drug Problem Smaller, 2001-2008*, January 2009.



the month prior to the survey) was 0.8% of the population age 12 and above in 2007, down from 1.0% in 2006.

This decline in the use of cocaine is confirmed by the results of drug tests among the general US workforce. The proportion of the workforce testing positive dropped from 0.91% in 1998 to 0.72% in 2006 and 0.41% in 2008, equivalent to a decline by more than 50% over the last decade.[1] The annual declines accelerated, from -3% in 2006 to -19% in 2007 and -29% in 2008. Positive tests for cocaine typically result from cocaine consumption a few days prior to drug testing.[2] Data show that most of the decline took place during the last two years.

Declines in cocaine use were also noticed in school surveys conducted in Ontario, Canada. The school surveys showed a decline in the annual prevalence of cocaine use of around 35% between 2003 and 2007. The perceived availability of cocaine dropped strongly between 2003 and 2007 and is now lower than in the late 1980s.

Following several years of increase, the Mexican authorities also reported cocaine use to have declined among the general population in 2007 as compared to the prev ious year. Overall cocaine use is, nonetheless, still higher than a decade ago. Preliminary results of a national household survey, conducted in 2008, suggest that lifetime prevalence of cocaine use rose from 1.5% in 1998[3] to 2.5% of the population aged 12-65 in 2008[4]. Such levels are, however, still significantly lower than lifetime prevalence of cocaine use in the USA (17.8% of the population aged 15-65 in 2007) or in Canada (10.6% among the population aged 15 and above in 2004).

In several West and Central European countries, use is stabilizing

Following strong increases in recent years, a number of surveys in West European countries showed first signs of a stabilization. The largest cocaine markets in Europe – Spain, England and Wales, Italy, and Germany – have begun to stabilize.

Spain, which has had the highest cocaine prevalence rates in Europe for the last decade and even higher rates than the USA in recent years, stabilized at an annual prevalence rate of 3% of the population aged 15-65 between 2005 and 2008. This is equivalent to some 910,000 cocaine users. Annual prevalence of cocaine use among secondary school students fell from a peak of 7.2% in 2004 to 4.1% in 2006, the lowest such rate since the late 1990s.[5]

Cocaine use in England and Wales showed strong increases from the mid-1990s to 2007. Data for 2008,

1 The data have been generated by Quest Diagnotics, based on more than 8.5 million drug tests every year, and are regularly reported by the US Office on National Drug Control Policy (ONDCP).

2 Cocaine positive result in urine tests are normally obtained for 'infrequent users' 12-48 hours after having consumed cocaine and for 'frequent users' the period extends to 1-4 days . For 'chronic users', in contrast, the substance can be detected up to several weeks after they had last used it. (Source: United Nations International Drug Control Programme, "A summary of commercially available products and their applications: guidance for the selection of suitable products, Part I, Biological Specimens", *Scientific and Technical Notes, SCITEC/18,* Dec. 2001, p. 6.)

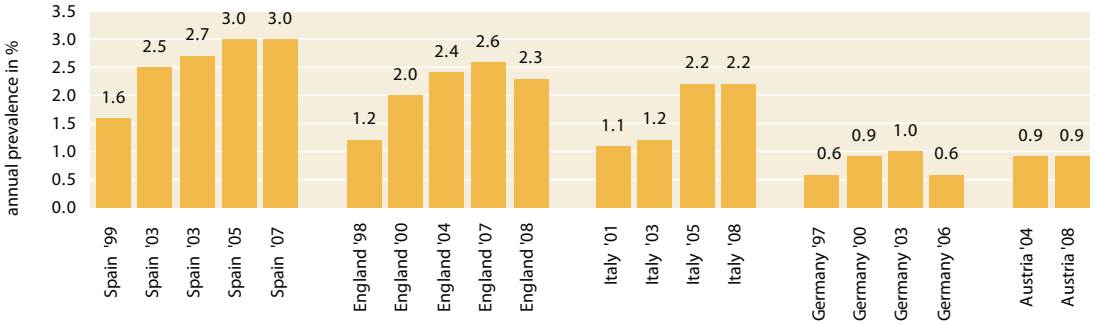
3 Secretaria de Salud, *El Consumo de Drogas en México*, Mexico Salud-2000.

4 Monica Arriola, "Encuesta Nacional de Adicciones 2008", *La Chronia de Hoy*, 23 Sept. 2008.

5 Ministerio de Sanidad y Consumo, *2007 National Report to the EMCDDA by the Reitox National Focal Point, "Spain" New Development, Trends and in-depth information on selected issues*, http://www.emcdda.europa.eu/attachements.cfm/att_61190_EN_NR2007Spain.pdf

Fig. 45: Spain, England & Wales, Italy, Germany and annual prevalence of cocaine use in % of youth and adult population[a]

[a] Spain in % of population aged 15-64; England and Wales in % of population aged 16-59; Italy: 2001 in % of population aged 15-44, in 2003 15-54, 2005 and 2008 15-64, Germany: in % of population aged 18-59, 1995-2003; in % of population aged 18-64 in 2006; Austria: in % of population 15-64. Sources: UNODC, Annual Reports Questionnaire data; EMCDDA, Statistical Bulletin; Ludwig Boltzmanninstitut, "Österreichweite Repräsentativerhebung zu Substanzgebrauch – Erhebung 2008" (Draft), Vienna 2009".



* annual prevalence in % pop. age 18-59; ** in % of pop. age 15-64

however, suggest a stabilization or even a small decline with annual prevalence of cocaine use falling from a peak of 2.6% of the population aged 16-59 in 2006/07 to 2.3% in 2008. This corresponds to a total of 860,000 persons estimated to have used cocaine in England and Wales in 2007/08. Including Scotland and Northern Ireland, the United Kingdom is estimated to have about 1 million cocaine users. The UK thus continues to be – in absolute numbers – Europe's largest cocaine market, with its second highest cocaine use prevalence rate.

Europe's third largest cocaine market is Italy with around 850,000 cocaine users. Similar to Spain, and England and Wales, data for Italy showed a stabilization of cocaine use over the 2005-08 period, following massive increases in previous years. The annual prevalence rate of cocaine use remained at 2.2% of the population aged 15-64 in 2008, the same level as in 2005.

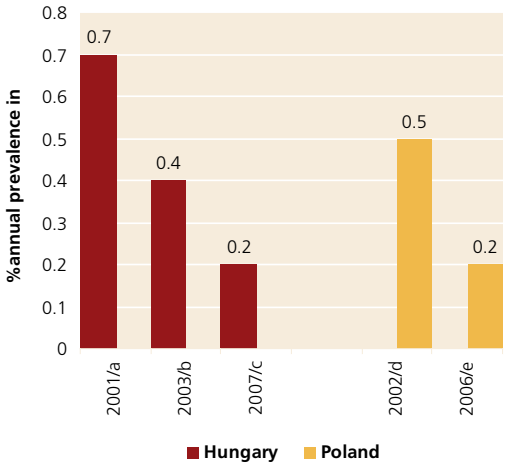
The cocaine market in Germany, Europe's fourth largest (in absolute numbers), also stopped growing. Cocaine use among the general population aged 18-59 declined from 1.0% in 2003 to 0.6% in 2006. Including crack cocaine, the prevalence rate amounted to 0.7% in 2006,[6] equivalent to some 380,000 persons. The decline in prevalence rates in Germany is also reflected in falling numbers of new cocaine users identified by law enforcement each year. This number declined some 30% over the last decade. Household surveys also showed a stabilization of cocaine use in Austria over the 2004 to 2008 period.

A stabilization in cocaine use in 2007 was reported in Switzerland and the Netherlands. The Baltic countries (Estonia, Latvia and Lithuania) as well as some countries

6 DBDD, *2007 National Report to the EMCDDA* by the REITOX National Focal Point Germany.

Fig. 46: Hungary and Poland: annual prevalence of cocaine use, 2001-2007

Source: UNODC, Annual Reports Questionnaire data.



a: age 18-65; b: age18-54; c: age 18-64; d: age 16-64; e: age 15-64

in Central Europe (Poland and Hungary) similarly reported a stabilization in 2007. Household surveys suggest that cocaine use may have even declined in recent years in both Poland (from 0.5% in 2002 to 0.2% in 2006) and Hungary (from 0.7% in 2001 to 0.2% in 2007).

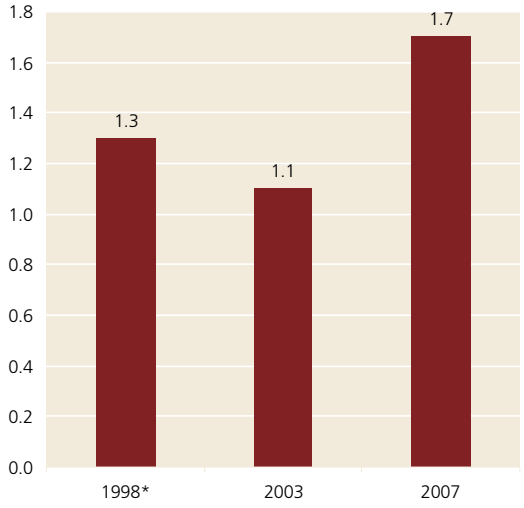
Use still rising in some European countries

In contrast, a number of countries continued to show increases in cocaine use. France, Europe's fifth largest cocaine market, reported an increase of cocaine use in 2007, in addition to the Czech Republic, Ireland, Slovakia and Ukraine. Cocaine use also increased in Portugal

over the 2001-2007 period, from 0.3% to 0.6%, reflecting the growing importance of Portugal as a cocaine transit country between South America, Western Africa and continental Europe in the last few years. Cocaine use in Ireland increased from 1.1% in 2003 to 1.7% in 2007 among the population aged 15-64. This increasing trend reverses the previously seen decrease (see figure).

Fig. 47: Ireland: annual prevalence of cocaine use among the general population aged 15-64, 1998-2007

Source: EMCDDA, *Statistical Bulletin 2008: Last year prevalence of drug use among all adults (aged 15 to 64 years old) in nationwide surveys among the general population*. http://www.emcdda.europa.eu/stats08/gpstab03



*Age 18-64

Expert perceptions in the Nordic countries indicated that cocaine use continued to increase among the general population. The annual prevalence of cocaine use in Finland increased from 0.2% (of the population aged 15-64) in 2000[7] to 0.5% in 2006[8]. Cocaine use also appears to be increasing in a number of countries in South-East Europe, as reflected in school survey data from the European School Survey Project on Alcohol and Other Drugs (ESPAD), conducted under the auspices of the Council of Europe.[9]

7 European Monitoring Centre for Drugs and Drug Addiction (EMCDDA), *Statistical Bulletin 2007: Last year prevalence of drug use among all adults (aged 15 to 64 years old) in nationwide surveys among the general population*. http://www.emcdda.europa.eu/stats07/gpstab03

8 EMCDDA, *Country overview: Finland – Key statistics on the drug situation in Finland.* http://www.emcdda.europa.eu/publications/country-overviews/fi/data-sheet#fn_one

9 In total, 35 European countries and territories participated in the 2007 ESPAD survey. In addition, the reports also provided data from Spain even though Spain had not formally participated in the ESPAD process

Several South American countries continue to show increases

In contrast to the decline in North America and the stabilization in Europe, cocaine use in South America still appears to be increasing. Increases in cocaine use in 2007 were reported by Venezuela (Bolivarian Republic of), Ecuador, Brazil, Argentina, Uruguay as well as countries in Central America (Guatemala and Honduras) and the Caribbean (Jamaica and Haiti). A stable or slightly decreasing level of cocaine use was seen in Chile, Peru, Paraguay and Costa Rica.

A study by UNODC and the Comisión Interamericana para el Control del Abuso de Drogas (CICAD)[10] shows that the highest prevalence rate in South America was reported by Argentina. The annual prevalence of cocaine use for 2006/07 was 2.6% of the population aged 12-65, up from 1.9% in 1999. Argentina also constitutes the second largest cocaine market in South America in absolute numbers (some 660,000 persons) after Brazil (some 890,000 persons or 0.7% of the population aged 12-65; up from 0.4% in 2001).

For some countries, results from the UNODC/CICAD study differed from other household surveys conducted in these countries. This variance can usually be explained by differences in the sampled populations (age group, urban/rural, etc.).

Poly drug use further complicates the comparison of annual prevalence data. Annual prevalence of all cocaine use (as reported to UNODC in the ARQ) does not take into account poly drug use and cannot be calculated simply by adding prevalence rates for cocaine HCL and cocaine base found in the UNODC/CICAD study.

In contrast to the upward trend found in most South American countries, cocaine use in Chile has been gradually declining over the last few years. Annual prevalence of all cocaine use fell slightly, from 1.8% in 2000 to 1.5% of the population aged 12-64 in 2006. This is equivalent to 1.7% of the population aged 15-64 (as reported to UNODC in the ARQ for the year 2007), or 190,000 persons. Results from school surveys in Chile also confirm a slight downward trend of cocaine HCl use in recent years, as the annual prevalence among high school students fell slightly between 2001 and 2007.

Drug use levels in Uruguay have clearly shown an upward trend in recent years. Annual prevalence of cocaine use rose from 0.2% in 2001 to 1.4% among the population aged 12-65 in 2007.

10 Naciones Unidas Oficina contra la Droga y el Delito (UNODC) y Comisión Interamericana para el Control del Abuso de Drogas (CICAD), *Elementos orientadores para las Políticas Públicas sobre Drogas en la Subregión,* Lima 2008.

Fig. 48: Annual prevalence of cocaine use in six South American countries, 2006/07 in % of population aged 15-64,

Source: Naciones Unidas Oficina contra la Droga y el Delito (UNODC) y Comisión Interamericana para el Control del Abuso de Drogas (CICAD), *Elementos orientadores para las Políticas Públicas sobre Drogas en la Subregión*, Lima 2008.

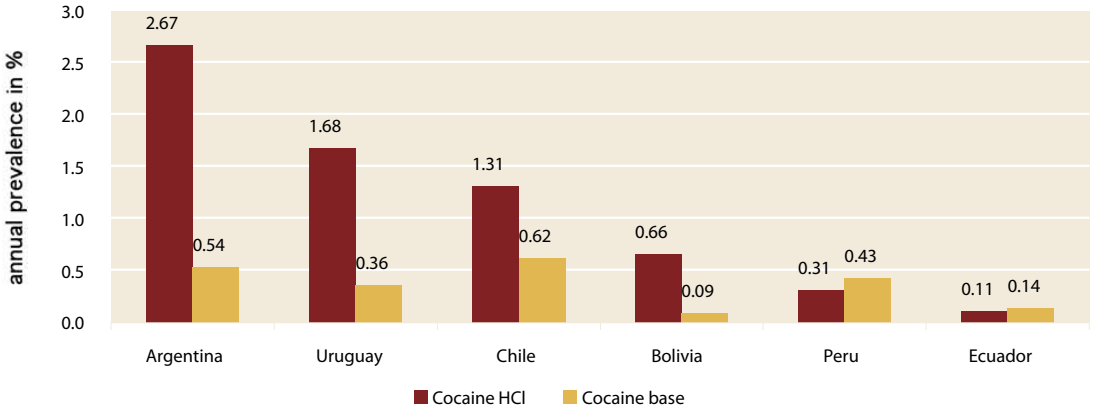
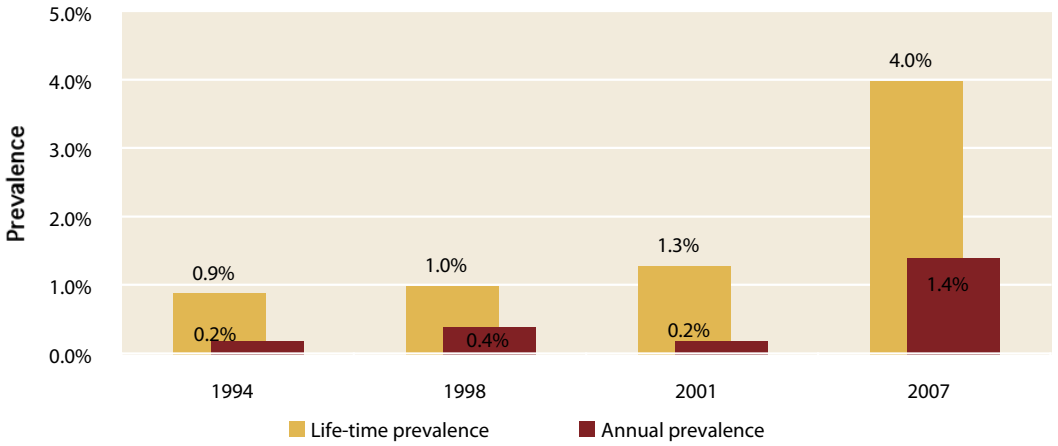


Fig. 49: Uruguay: cocaine use among the population aged 12-65*, 1998-2007

* Age group 15-65 for survey in 1994; age group 12-64 in 1998 and in 2001; and age group 12-65 in 2007.
Sources: Observatorio Uruguay de Drogas (OUD), *Encuesta Nacional en Hogares sobre Consumo de Drogas 2007* and Secretaria Nacional de Drogas y Junta Nacional de Drogas, *Encuesta Nacional de Prevalencia del Consumo de Drogas 2001.*



The levels of cocaine HCl use for Bolivia (0.7%), Peru (0.3%) and Ecuador (0.1%) found in the UNODC/CICAD study are much lower than for Argentina, Uruguay and Chile. In addition to the use of cocaine HCL, the study showed that 'pasta base' (cocaine base), is frequently being consumed in South America. The highest annual prevalence rates of cocaine base were reported by Chile (0.6%) followed by Argentina (0.5%) and Peru (0.4%).

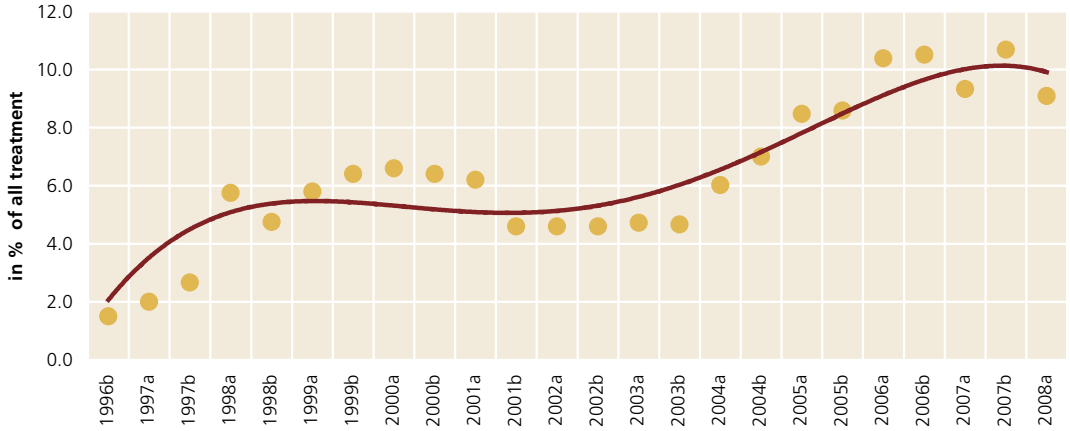
Use rising around emerging cocaine transit countries in Africa...

Data on cocaine use in Africa is mostly based on the perceptions of country experts rather than surveys. These data show that some African countries, notably in Western and Southern Africa, are experiencing rising levels of cocaine use. Unfortunately, most countries in these regions still do not have proper monitoring systems that could validate the expert perceptions.

South Africa is one of the few countries which has some data to substantiate expert perceptions. Treatment data for South Africa show a strong increase of cocaine related treatment (incl. alcohol) over the 1998-2008 period, from a proportion of around 5% of treatment demand in 1998 to 9% of total treatment demand over the first two quarters of 2008. Data show that treatment demand for cocaine (incl. alcohol) is responsible for

Fig. 50: South Africa: cocaine as primary drug of abuse in treatment demand*, 1996-2008

* unweighted average of treatment (incl. alcohol) in 7 provinces.
Source: SACENDU, "Monitoring Alcohol & Drug Abuse Trends in South Africa, July 1996-June 2008", *Research Brief*, Vol. 11 (2), 2008



some 10% of all drug treatment in South Africa. If alcohol is excluded, treatment demand for cocaine is already responsible for more than 15% of all drug treatment in South Africa – a higher proportion than in Europe.

…as well as in the Oceania region

In contrast to the decline of cocaine use in North America and signs of a stabilization in Europe, cocaine use appears to be growing in the Oceania region.

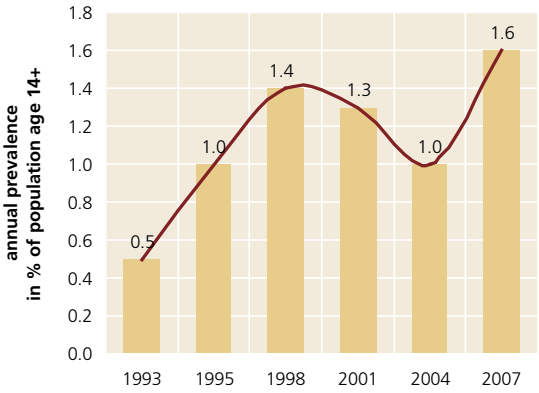
Annual prevalence of cocaine use among the population age 14 and above grew in Australia from 1.0% in 2004 to 1.6% in 2007 (1.9% among those aged 15-64 years). Annual prevalence is thus now slightly above the West and Central European average (1.4%). The upward trend over the 2004-2007 period reversed the previous downward trend observed over the 1998-2004 period.

The upward trend over the 2003-2007 period is also reflected in the data collected by the Australian Institute for Criminology for the ongoing *Drug Use Monitoring in Australia* (DUMA) project where arrested people at selected police stations across Australia are regularly tested for drug abuse. The unweighted average of the results showed an increase in the number of people testing positive for cocaine from 0.5% in 2003 to 2.1% in 2007.

Cocaine use in New Zealand also more than doubled between 2003 and 2006. In both Australia and New Zealand cocaine prevalence is now higher than in 1998.

Fig. 51: Australia: annual prevalence of cocaine use among the population age 14 and above, 1993-2007

Source: Australian Institute of Health and Welfare, *2007 National Drug StrategyHousehold Survey,* April 2008.



Joint UNODC-WHO Programme on Drug Dependence Treatment and Care

The Joint UNODC-WHO Programme on Drug Dependence Treatment and Care is a milestone in the development of a comprehensive, integrated health-based approach to drug policy that can reduce demand for illicit substances, relieve suffering and decrease drug-related harm to individuals, families, communities and societies.

The initiative sends a strong message to policymakers regarding the need to develop services that address drug use disorders in a pragmatic, science-based and humanitarian way, replacing stigma and discrimination with knowledge, care, recovery opportunities and reintegration.

The programme is based on a global collaborative effort, under the leadership of UNODC and WHO. The collaboration will include governments, health professionals, nongovernmental organizations (NGOs) and funding agencies committed to increasing the coverage of essential services for drug dependence treatment and care.

Why UNODC and WHO together?

UNODC and WHO both have constitutional mandates to address issues presented by drug use and dependence. Moreover, taking into account the health, socioeconomic and security implications of drug use and related disorders, the two agencies are uniquely positioned to lead this initiative. In particular, it will open a dialogue with Member States and involve a varied group of government ministries such as those for health and welfare, as well as the criminal justice system and other relevant sectors.

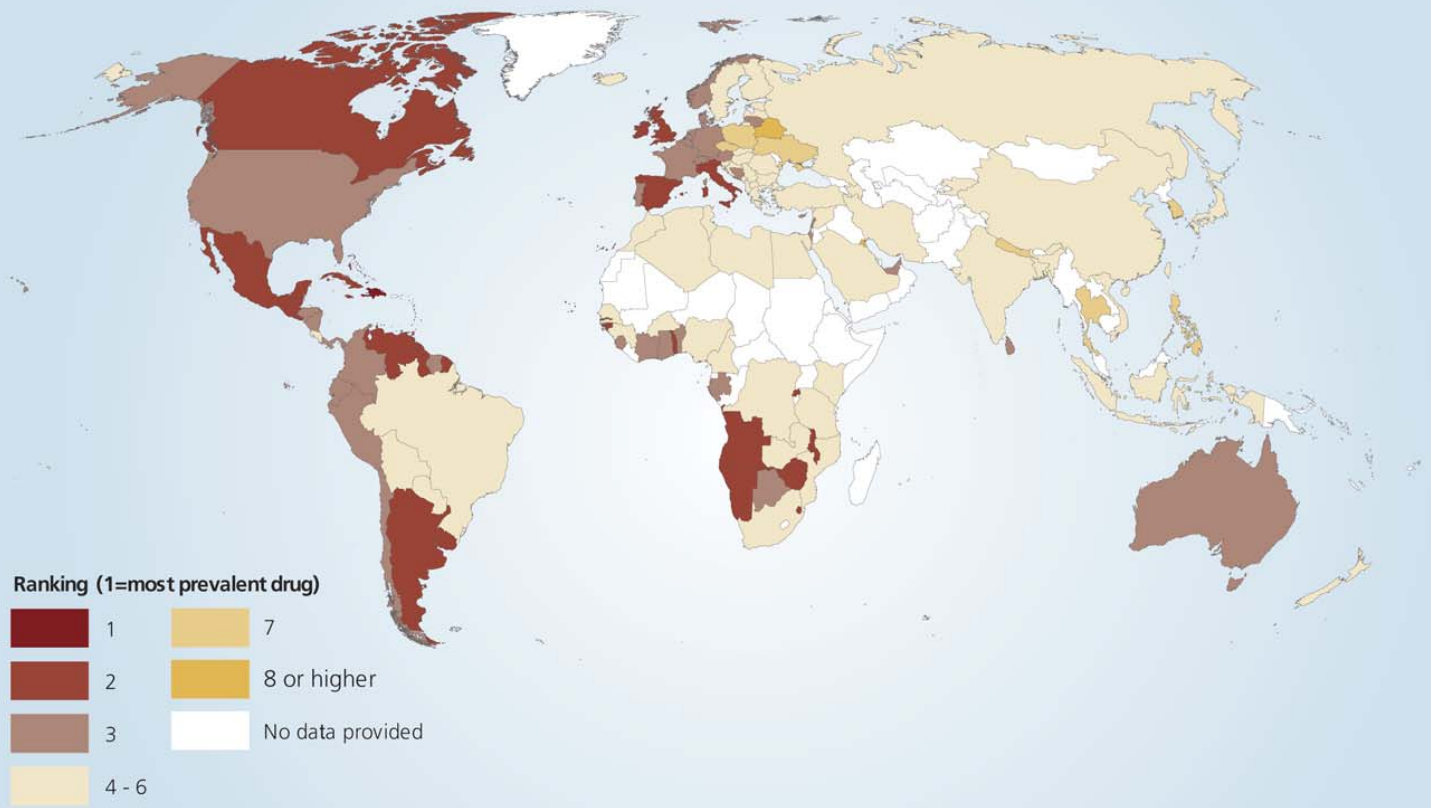
Objectives:

- Promoting and supporting worldwide (with a particular focus on low- and middle-income countries) evidence-based policies, strategies and interventions that are based on a public health and human rights approach, in order to reduce drug use and the health and social burden it causes.
- Recognizing drug dependence as a preventable and treatable multi-factorial health disorder; and recognizing the social advantages of investing in treatment: lowering health-related costs, improving security and contributing to social cohesion.
- Bringing drug dependence treatment into the mainstream health care and social welfare system, without discrimination.
- Promoting investment in comprehensive and results-oriented programmes for drug dependence treatment and care, particularly community-based interventions.

The Joint Programme:

1. Leads a global collaborative effort for improving coverage and quality of treatment and care services for drug use disorders in low- and middle-income countries.
2. Promotes the development of comprehensive and integrated treatment systems that are able to deliver a continuum of care for drug users and link services at municipal and national levels.
3. Maps population needs, legislative frameworks and available services and programmes for drug dependence treatment and care.
4. Supports policy and legislation revision to achieve balance in drug policy and to support humane and effective drug prevention, treatment and care.
5. Develops low-cost outreach treatment and care services, and increases access in rural and remote areas.
6. Places prevention, treatment and care of drug use disorders into the mainstream health care system, linking with NGOs and ensuring full coordination with the health care system, as part of an integrated continuum of care.
7. Provides alternative measures to imprisonment for dependent drug users where appropriate and, where this is not possible, provision of drug-dependence treatment in prison settings.
8. Supports universities at the national level to promote research and training curricula on drug dependence treatment and care.
9. Provides and supports training programmes for professionals involved in the provision of treatment and care for drug users, including those whose professional primary focus is not in that area.
10. Develops international recommendations, guidelines and standards aiming at the knowledge transfer from research to practice and supports adaptation and implementation at country level.
11. Supports regional networks of quality service providers, working on drug dependence treatment, social support services and HIV/AIDS prevention and care.
12. Seeks to assist the development of drug treatment monitoring systems in countries, in ways that will facilitate not only a greater understanding of the drug situation within countries, but also between countries, for a better understanding of regional and global trends.

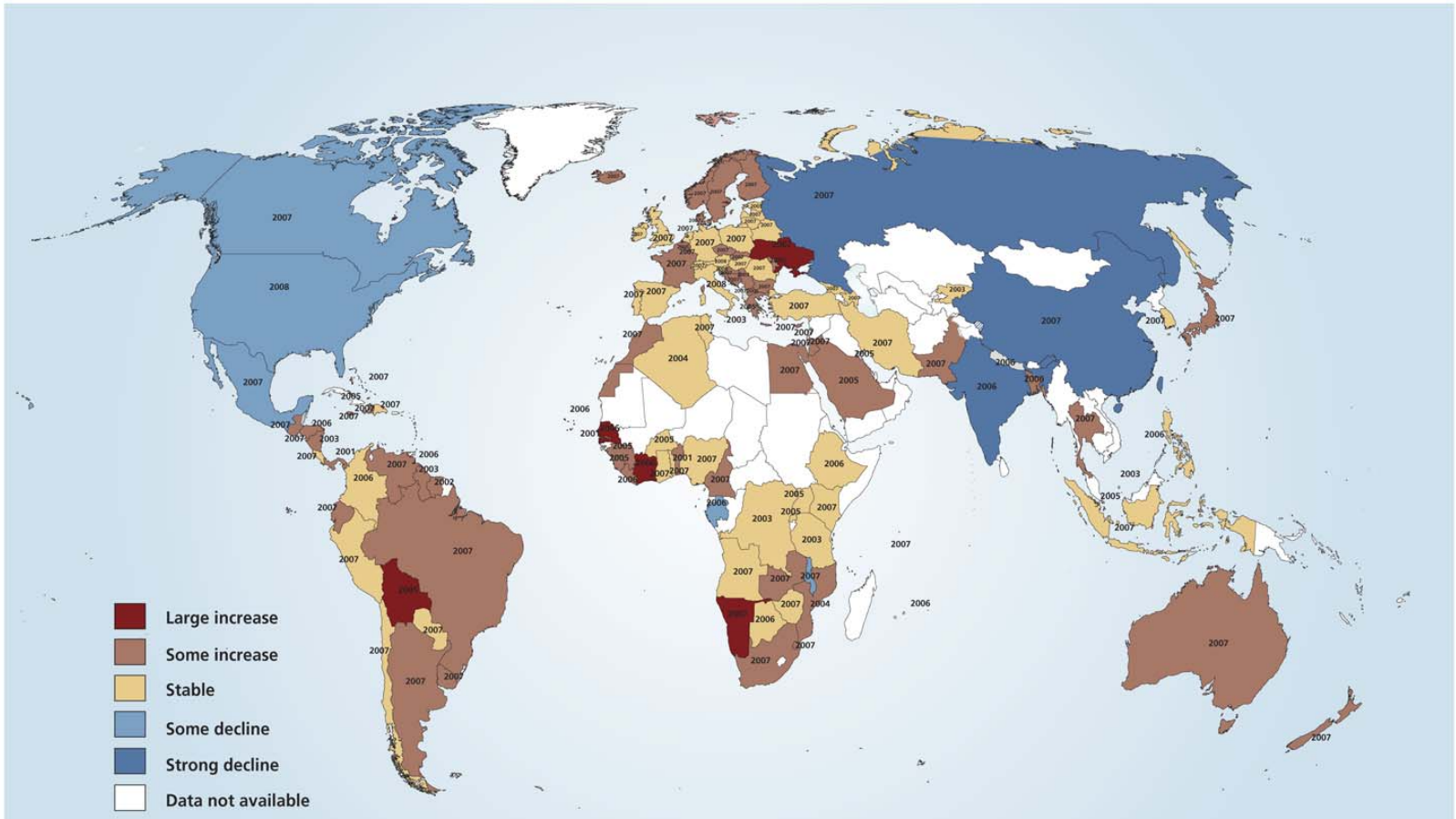
Map 11: Ranking of cocaine in order of prevalence, 2007



Source: UNODC Annual Reports Questionnaires data/DELTA; Government Reports, US Department of State; European Monitoring Centre for Drugs and Drug Addiction (EMCDDA); Drug Abuse Information Network for Asia and the Pacific (DAINAP); UNODC Global Assessment Programme on Drug Abuse (GAP); Inter-American Drug Abuse Control Commission (CICAD); UNODC Rapid Assessment Studies, Council of Europe, ESPAD.

Note: The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.

Map 12: Change in the use of cocaine, 2007 (or latest year available)



*Primary source: UNODC Annual Reports Questionnaires. For a few countries, UNODC has based its perception on supplementary drug trend information derived from or reported in national household surveys, United States Department of State (Bureau for International Narcotics and Law Enforcement Affairs), International Narcotics Control Strategy Report, Law Enforcement Reports, Meetins of Heads of Law Enforcement Agencies (HONLEA), UNODC Illicit Drug Trends publications for various countries, Drug Abuse Information Network for Asia and the Pacific (DAINAP), UNODC Global Assessment Programme on Drug Abuse (GAP), UNODC, UNODC Data for Africa Project.

Note: The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.

1.3 Cannabis market

1.3.1 Summary trend overview

UNODC estimates that between 200,000-641,800 ha were used for outdoor cannabis cultivation in 2008. There are high levels of uncertainty in cultivation estimates as cannabis can be grown - indoors or outdoors - in most countries in the world. Therefore, it is not possible to produce more precise data, as is done for opiates and cocaine. The total cannabis herb production is estimated to range from 13,300-66,100 mt, and for cannabis resin, the estimated production range is 2,200-9,900 mt.

Total cannabis herb seizures increased somewhat in 2007 to reach a total of 5,600 mt. As in 2006, the majority of cannabis herb seizures in 2007 were reported from Mexico and the USA. Cannabis resin seizures also increased to some 1,300 mt, with most seizures reported by countries in West and Central Europe. Resin seizures increased by more than one third in this subregion, compared to 2006.

UNODC estimates that between 143 and 190 million persons globally used cannabis at least once in 2007. Cannabis use seems to be increasing in several countries in Latin America and Africa, whereas in the established markets of North America and Western Europe, there are signs from recent studies that the levels of use are declining, particularly among young people.

1.3.2 Production

The total estimated area for outdoor production of cannabis in 2008 ranges from 200,000-641,800 ha. The total cannabis herb production is estimated to range from 13,300-66,100 mt and the production of cannabis resin from 2,200-9,900 mt. Due to high levels of uncertainty in estimating cultivation, it is not possible to produce more precise data, as is done for opiates and coca/cocaine.

This chapter shows the information that is available and gives an indication of the extent of global cannabis cultivation and production. Minimum and maximum levels of production and cultivation are explored by applying four methods. One method is based on reported cultivation and production, the second is based on seizures of cannabis, and the third and fourth method are based on user prevalence rates.

Availability of data

The cannabis market is the largest illicit drug market in terms of global spread of cultivation, volume of production and number of consumers. Unfortunately, the dominance of cannabis in the drug market is not reflected in the availability of reliable data. The information available on cannabis cultivation and production is fragmented, non-standardized and not always based on scientific research. This complicates the estimation of total global production.

A major source of information for cultivation and production are the responses to the Annual Report Questionnaires (ARQ). The ARQ asks for figures on the extent of cultivation, production and yield. Data on

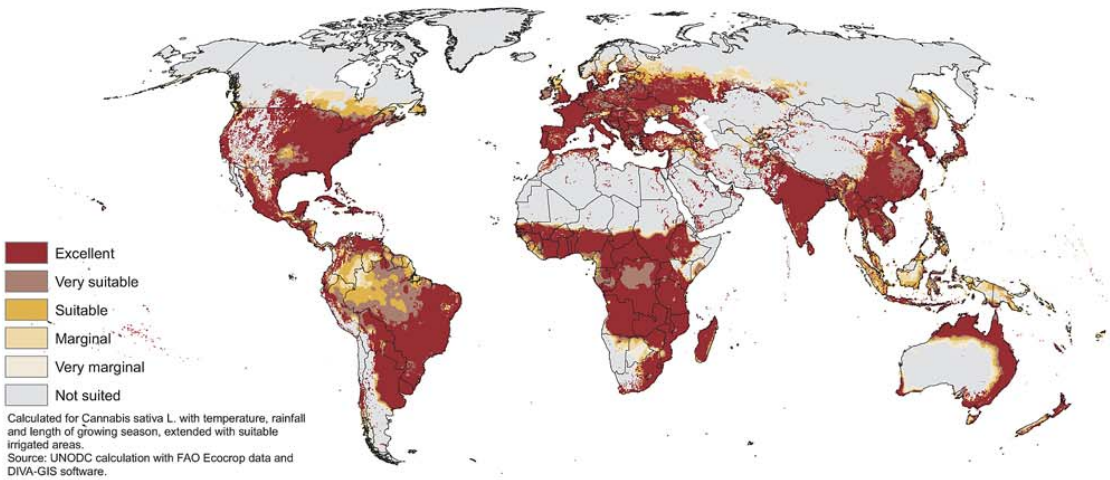
seizures and their countries of origin are also systematically collected in the ARQs.

In 2007, 21 countries submitted some information on their cultivation of cannabis, whereas, from previous calculations, about 172 countries that report to UNODC have had some level of cultivation in the past ten years[1] (2008 *World Drug Report*). One of the reasons for this low level of reporting is the difficulty to assess the extent of an illicit crop that is so widespread. The map below shows the suitability of outdoor cannabis cultivation and indicates that practically all countries have suitable areas for outdoor growing of cannabis. The actual areas will be even more extensive due to the cross-breeding of varieties that have broader climate adaptability, which has not been taken into account for this map.[2] With the possibility to grow cannabis indoors, the potential area could be extended to all areas with access to water and electricity.

Currently, there are very few cannabis monitoring systems that offer scientifically reliable cultivation estimates. In the past, UNODC has assisted in the implementation of cannabis surveys in Morocco (2003-2005) and Central Asia, covering Kazakhstan, Kyrgyzstan and Tajikistan (1998-1999). The Moroccan Government is planning to undertake a new survey in 2010. Furthermore, UNODC is currently planning cannabis surveys in Afghanistan and Paraguay. These new surveys will provide more information on the extent of production in these countries, believed to be two of the world's major cannabis-exporting countries.

Previous attempts to estimate cannabis cultivation used a triangulation calculation, where user rates are combined with information on seizures and cultivation (see 2006 and 2008 *WDR*). However, the paucity of the data makes the outcome tentative and with a large margin of error (Bulletin on Narcotics 2006; 2006 *WDR*). The conclusion from the analysis of global cannabis use and production in the 2006 *World Drug Report* is that too little is known about how and where cannabis is being grown, the sources for consumption and the extent of the users and their use. Not much has changed since 2006. The present analysis makes use of all available data on the production and cultivation of cannabis, taking into account the uncertainty in this field.

Map 13: Climatologically suitable areas for outdoor cultivation of cannabis



1 Based on ARQ reports on cultivation in the country, or the identification of another country as a source/origin, or on the countries that reported seizures of cannabis plants, which are obviously locally grown.

2 On the other hand, some areas will be less suitable due to unfavourable soil characteristics, like bad drainage or high levels of acidity or alkalinity, which have also not been taken into account for this map.

Global cannabis herb and resin production estimates

Cannabis herb and resin production can be estimated from the supply and from the demand side. An estimate from the supply side can be based on reported seizures or by estimating the total area of cultivation and production per hectare, based on the figures provided by a limited number of countries. For the latter, most countries do not have a national figure for cultivation and do not have the capacity to generate an estimate. The table summarizes the most recent data available for some of the main producing countries as reported in the ARQs and other sources. The figures given in the table are in herbal equivalents, and the total shows a range of herbal production of some 88,000-110,000 mt. This does not include important producing countries like Afghanistan,[3] Democratic Republic of the Congo, Ghana, Jamaica, Nigeria and Pakistan, and should therefore be considered as an absolute minimum figure of global production.

These figures are given in herbal equivalent volumes, and are therefore not comparable with the figures calculated in the 2008 *WDR*. They cannot be used to describe trends.

Another way to estimate cannabis production is to use data on seizures reported in the ARQs and multiply them by an estimated rate of interdiction. Cannabis seizures are reported as herb, plants or resin. The interception rate for herbal cannabis and cannabis plants is estimated to range between 10-20%, whereas the interception rate for resin is likely to be a bit higher, at least 17% (*Bulletin on Narcotics*, 2006). These interception rates were combined with conversion rates for resin and plants to calculate the total production range of each drug.

The third way to estimate production is based on the demand for cannabis from the calculated number of cannabis users and the average use per year. This provides the amount of herbal and resin cannabis production required to satisfy global demand. The estimates for average use per year has a high variability depending on the users' habits, the method of consumption and the quality of cannabis products. The literature mentions average use estimates between 60-200 g per year, without making a distinction between cannabis resin and herbal cannabis. These levels of use give a demand volume of 9,000-51,000 mt. About 10-17% of the use is estimated to be consumed as cannabis resin. Applying these factors and adding the amount of cannabis herb, cannabis plants (in herbal equivalents) and resin, respectively, gives a required production volume of some 13,300-52,400 mt of cannabis herb and 2,200-9,900 mt of cannabis resin.

Table 9: Available information on cannabis production in the major producing countries 2008[4]

Country	Cultivated area (ha)	Eradicated area (ha)	Harvestable area (ha)	Herbal production (mt)
Morocco	60,000[5]		60,000[5]	43,850[5]
Mexico		21,357[4] (2007) 18,562[4] (2008)	8,900 (2007)[7]	27,806[4] (2007) 15,800[7] (2008)
Paraguay	6,000[6]	1,693[4] (2007)	6,000[6]	16,500[6]
Kazakhstan (1999)	124,000-329,627[8]			3,000-6,000[7]
South Africa	1,500-2,000[9]		1,500-2,000[9]	
Colombia (2006)	5,000[10]			4,000[10]
USA		6.6 million outdoor plants / 430 000 indoor plants[7]		3,149-7,349[11]
Canada				1,399-3,498[12]
Netherlands		851,510 plants[7]		36-99[13] 625[7]
Lebanon	3,500[7]		3,500[7]	
Total	**200,000-406,000**			**87,734-109,628**

3 UNODC was not able to provide relieable estimates for cannabis cultivation in Afghanistan during the *Opium Poppy Survey 2008*.

4 Annual Reports Questionnaires, 2007.

5 Official Government communication 26/02/2009, in Lutte antidrogue - Synthese 2008, Min of Interior. Herbal production, which was calculated from the reported resin production of 877 mt, refers to gross cannabis production and is not necessarily directly comparable to herbal production of other countries.

6 Secretaria Nacional Antidrogas (SENAD), 2008.

7 US Department of State, *International Narcotics Control Strategy Report* (INCSR), 2009.

8 Annual Survey reports Cannabis, Opium Poppy and Ephedra, 1998 and 1999. UNDCP. Includes areas of wild growth.

9 INCSR 2009; expert opinion; some top-end estimates are that 20,000-30,000 hectares of arable land are used to grow cannabis.

10 *Bulletin on Narcotics* 2006.

11 UNODC, calculated with the number of eradicated plants, using the method applied by the US National Drug Intelligence Center, 2007.

12 Public Safety Canada, 2009. http://www.publicsafety.gc.ca/prg/le/oc/_fl/us-canadian-report-drugs-eng.pdf.

13 Van der Heijden, 2003. De Nederlandse Drugsmarkt. Korps landelijke politiediensten, Dienst Nationale Recherche Informatie.

Table 10: Estimated volume of cannabis herb and resin based on seizure data

Sources: *2009 *WDR* and **Bulletin on Narcotics* 2006.

		Interception rate**		Conversion rate		Production (mt)	
	Seizures* (mt)	Low	High	Low	High	Low	High
Cannabis herb	5,557	0.1	0.2	-	-	28,025	56,050
Cannabis plants	5,020	0.1	0.2	0.1	0.2	2,510	10,040
Total cannabis herb						**30,535**	**66,090**
Total cannabis resin	**1,296**	**0.17**	**0.2**	**-**	**-**	**6,480**	**7,624**

Table 11: Total cannabis demand, based on average user consumption

Sources: *Van der Heijden, 2003. De Nederlandse Drugsmarkt. Korps landelijke politiediensten, Dienst Nationale Recherche Informatie and **2008 *WDR*; neither source differentiates between cannabis resin and herbal use.

	Number of users 15-64 year		Average use (kg/user/year)		Calculated use (mt)	
	Low	High	Low*	High**	Low	High
Africa	29,545,844	120,459,807	0.06	0.2	1,773	24,092
Asia	40,912,205	59,464,983	0.06	0.2	2,455	11,893
Europe	28,888,570	29,660,039	0.06	0.2	1,733	5,932
North America	31,262,302	31,262,302	0.06	0.2	1,876	6,252
Oceania	2,455,307	2,572,840	0.06	0.2	147	515
South America	10,457,999	11,083,110	0.06	0.2	627	2,217
Global total	**143,522,228**	**254,503,082**	**0.06**	**0.2**	**8,611**	**50,901**

Table 12: Estimated global production of cannabis herb and resin, based on average user consumption

Source: *Based on the proportion of seizures. 17% of the seizures were cannabis resin, however this is most probably an overestimation of the proportion of use since resin is more trafficked abroad and has higher chances of being seized. The lower proportion is assumed to be 10%.** In herbal equivalents, applying a factor of 0.1 and 0.2 to plant seizures for the low/high estimates, respectively.

	Use (mt)		Correction factor for proportion of cannabis resin use*		Calculated cannabis production (mt)	
	Low	High	Low	High	Low	High
Total cannabis use	8,611	50,901				
Cannabis herb use			83%	90%	7,147	45,811
Cannabis herb/plant seizures**					6,107	6,609
Total cannabis herb production					13,254	52,420
Cannabis resin use			10%	17%	861	8,653
Cannabis resin seizures					1,296	1,296
Total cannabis resin production					**2,157**	**9,949**

Instead of using a simple average for all users, according to a typology reported in the *Bulletin on Narcotics* (2006), users can be differentiated and classed as casual users, regular users, daily users and chronic users. Casual users (45%) are people who share cannabis cigarettes an average of four times per year (0.6 grams/year). Regular users (41%) use more advanced inhaling techniques with higher frequency, on average 100 times per year (15 g/year). Daily users (9%) use one to four cannabis cigarettes per day (320 g/year) and chronic users (4%) who reach ten cigarettes per day (1,825 g/year).

Applying these user rates and the same conversion factors as in the former estimation method (proportion of cannabis resin use and conversion rate) give a total of cannabis used for consumption which ranges between 20,000-33,200 mt of cannabis herb and 3,000-6,300 mt of cannabis resin.

The calculated estimates, using the four different methods, indicate the large range of uncertainties in estimating the worldwide cannabis herb and resin production. A final range can be constructed by considering the different estimates. The final global production figure can

Table 13: Calculation of the volume of cannabis demand, based on amounts of use by user typology

Typology	% of users	Use (gram/year)	Min demand (mt)	Max demand (mt)
Casual	45	0.6	39	69
Regular	41	15	888	1,575
Daily	9	320	4,306	7,635
Chronic	4	1,825	11,459	20,320
Total	**100**	**172***	**16,692**	**29,599**

* weighted average

Table 14: Estimated volume of cannabis herb and resin demand, based on amounts of use by user typology

* Based on the proportion of seizures. 17% of the seizures were cannabis resin, however this is most probably an overestimation of the proportion of use since resin is more trafficked abroad and has higher chances of being seized. The lower proportion is assumed to be 10%. ** In herbal equivalents, applying a factor of 0.1 and 0.2 to plant seizures for the low/high estimates, respectively.

	Calculated use of cannabis*	
	Low	High
Cannabis herb	13,854	26,639
Cannabis herb/plant seizures*	6,107	6,609
Total cannabis herb production	**19,961**	**33,248**
Cannabis resin	1,669	5,032
Cannabis resin seizures	1,296	1,296
Total cannabis resin production	**2,965**	**6,328**

Table 15: Summary of cannabis herb and resin production estimates

	Cannabis herb (mt)		Cannabis resin (mt)	
Method	Minimum	Maximum	Minimum	Maximum
Seizure based calculation	30,535	66,090	6,480	7,624
User based calculation – average use total population	13,254	52,420	2,157	9,949
User based calculation – average use by user type	19,961	33,248	2,965	6,328
Ranges	**13,254**	**66,090**	**2,157**	**9,949**

vary from 13,300-66,100 mt of cannabis herb and 2,200-9,900 mt of cannabis resin.

To convert these figures into cultivation area, a distinction should be made between indoor and outdoor cultivation, since acreage for indoor cultivation is not a very meaningful unit. Indoor cultivation is not area restricted due to the potential use of several floors in one building and the large number of harvests per year.[14] Outdoor cannabis yields can also vary largely, for example, due to climate variances and the use of irrigation, but these yields probably have a smaller range.[15] Assuming average outdoor yields for herb from 470-1,200 kg/ha (2008 *WDR*) and assuming that 80-95% of the total production takes place outside, gives a range of cultivated area varying broadly between 25,800-641,800 ha. For cannabis resin, yield per hectare could be derived from surveys in Morocco and Afghanistan. The average yield in Morocco, where most cannabis is grown on rain-fed land, was used for the lower estimate, and the yield from Afghanistan, where most cannabis is grown on irrigated land, for the higher estimate.[16]

14 Indoor crops can have up to 6 harvests per year, with a yield of 5,000 kg/ha confirmed by several sources. This makes indoor cropping 15-30 times more productive than outdoor crops (*Bulletin on Narcotics*, 2006).

15 Yields vary from 5 kg/ha to 40,000 kg/ha, reflecting ranges between wild cannabis and hydroponically grown cannabis. The median cannabis yield was 770 kg/ha. Typical yield for outdoor cannabis varies between 470 kg/ha without irrigation to 5,000 kg/ha in well-tended gardens, with figures around 2,000 kg/ha typical for the situation in the USA (as identified through the analysis of data from court cases), and levels around 1,000 kg/ha typical for developing countries. In contrast, hydroponically grown cannabis were found to reach typical yield levels from 15,000-30,000 kg/ha. (*WDR* 2008).

16 Sources: UNODC/Govt. of Morocco: *Enquête sur le cannabis*, 2004 and 2005. The lower average resin yield of the two years 2004 and 2005 was taken for the lower estimate. Afghanistan: UNODC/Min.

Fig. 52: Ranges of global estimates of cannabis herb production by methodology

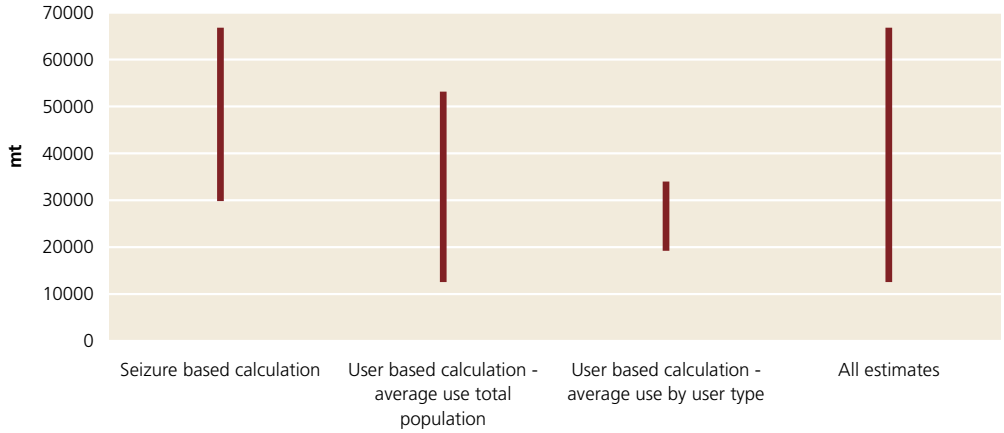


Fig. 53: Ranges of global estimates of cannabis resin production by methodology

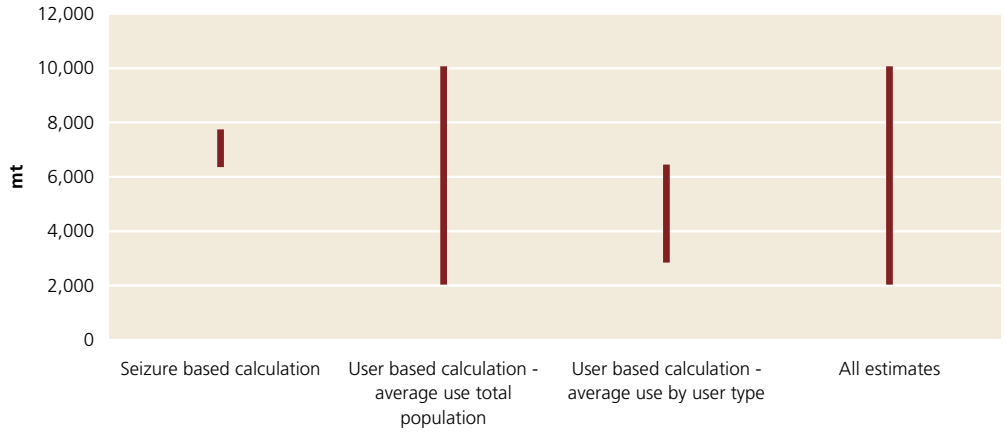


Table 16: Estimation of outdoor cultivation area from the calculated production range

	Production range (mt)		Proportion of outdoor cultivation		Average outdoor yield kg/ha*		Cultivation area (ha)	
	Low	High	Low	High	Low	High	Low	High
Cannabis herb	13,254	66,090	80%	95%	470	1,200	8,836	133,586
Cannabis resin	2,157	7,624	-	-	15	125	17,256	508,235
Total							**(25,757) 200,000**	**641,821**

Since the cultivation area in Morocco alone ranged from 60,000-130,000 ha in the period of 2004-2008, it is better to use the sum of the known cultivated areas as an absolute minimum, which is 200,000 ha. Thus, the estimated area under cannabis cultivation ranges from about 200,000-641,800 ha. Outdoor cultivation can also give several harvests in one year[17] but this has not been taken into account here, which makes the calculated area an absolute maximum for the calculated production.

of Counter Narcotics (2008): Baseline information on cannabis cultivation. The median of 81 farmer responses was used for the higher estimate.

17 Especially at lower-latitude locations, where temperature and day length are less restricting.

Trends by country

Since few countries report the extent of their own cannabis production, it is difficult to analyze any global trends from these data. However, there are more reports on the origin of cannabis in the market of each country. UNODC collects data on countries of origin of annual and individual seizures through the ARQ and a questionnaire on individual seizures. This information provides some indication of the trends in the main producing countries. The table below shows the main source countries of cannabis herb. The Netherlands, South Africa, Albania, Jamaica and Paraguay have been seen as principal producers of cannabis herb for about 25% of the cannabis herb market, because seized cannabis originated there. In 2005-2007, Colombia and Nigeria were added to the list. However, almost 76% of the entries refer to source countries which are mentioned less than 10 times in a 3-year period. There are only insignificant changes between the two time periods.

Cannabis resin production

The picture for cannabis resin is clearer because the production of resin is concentrated in relatively few countries and it is trafficked across borders more often. Morocco is known to be the world's main source of cannabis resin. The Government of Morocco reported further reduction of the cannabis production in 2008, reporting 60,000 hectares in production after eradication, following a decrease observed in the 2005 survey by the Government of Morocco and UNODC. This decline is, however, not reflected in the data reported by countries on the origin of their seized cannabis resin. Both in the ARQs and in the Individual Seizure Database, Morocco continues to be the principal supplier of resin in the world. In the ARQs, the proportion reportedly of Moroccan origin has increased in the period 2005-2007, compared to 2001-2004.

Afghanistan is the second most prominent cannabis resin producer, with a small increase in the figures from the annual seizures. Nine per cent of source countries in 2005-2007 pointed to Afghanistan, compared to 6% in 2001-2004. Another indication of the importance of Afghanistan as a cannabis producer is the report of a very large seizure in 2008, amounting to some 237 mt in one stockpile.[18] Although there is no reliable figure available for cannabis cultivation in Afghanistan in 2008, experts believe that the extent of cannabis production is approaching the cultivation area of Morocco with steadily increasing production due to the relatively higher prices for cannabis products, compared to opium. At the end of 2008, UNODC performed a baseline study on cannabis cultivation in Afghanistan and identified 20 out of 34 provinces with substantial cannabis cultivation. A first cannabis survey is being planned by the Afghanistan Ministry of Counter Narcotics and UNODC in 2009.

India and Nepal are also identified as source countries (4%). Some CIS countries are increasingly (6%) mentioned as a source for cannabis resin, mainly due to new reports from Azerbaijan, in addition to reports from Ukraine, the Republic of Moldova, the Russian Federation and Armenia. Pakistan continues to be an important source according to both annual and individual seizure information. The Central Asian countries, mainly Kazakhstan and Kyrgyzstan, are only mentioned as sources in the annual seizures. The main production area in Central Asia is the Chu Valley in Kazakhstan where cannabis - for both herb and resin production - grows on extensive wild and cultivated areas, estimated to total more than 300,000 ha.

Table 17: Main source countries of cannabis herb according to reported seizures in the ARQs, 2005-2007 and 2002-2004

Source: UNODC Annual Reports Questionnaire data.

Source country	2005-2007		2002-2004	
	Number of mentions as a source country	Proportion (%) of all reporting countries*	Number of mentions as a source country	Proportion (%) of all reporting countries*
Netherlands	38	8%	36	8%
South Africa	15	3%	14	3%
Albania	14	3%	20	4%
Jamaica	12	3%	14	3%
Colombia	11	2%	7	1%
Paraguay	10	2%	12	3%
Nigeria	10	2%	7	1%
Others	1 to 9 times	76%	1 to 9 times	77%
Total	**458**	**100%**	**485**	**100%**

* Cumulative reporting for three years. Countries may report more than once.

18 ISAF, 2008, http://www.nato.int/isaf/docu/pressreleases/2008/06-june/pr080611-246.html.

Algeria and the Islamic Republic of Iran have recently emerged as a significant source country for individual seizures. Iran is also mentioned as a source by 3% of the annual seizures as reported in the ARQ. It might be an indication of Iran being increasingly used as a transit country.

The Netherlands is mentioned as a country of origin for resin, but it is not clear to what extent the cannabis resin actually originates there. Although the Netherlands is an important producer of cannabis herb, available information suggests that resin production is limited. The same might be true for other Western European countries such as France, Germany and Belgium that are mentioned in the annual seizures, but it is not clear to what extent they are transit countries.

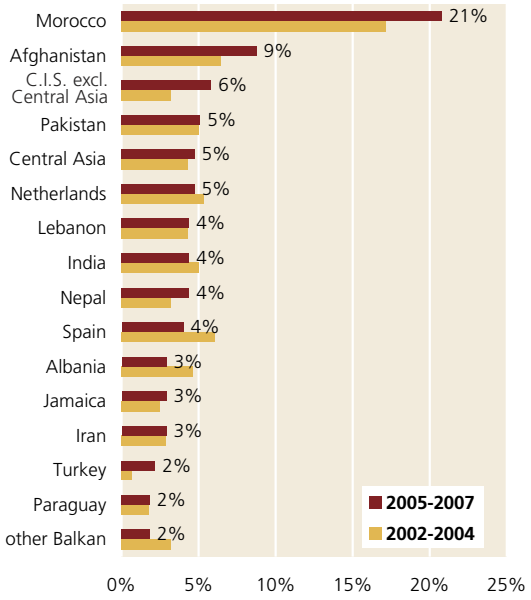
Albania's importance as an exporter of cannabis in general and specifically of resin seems to have diminished. Only 3% of the countries mention Albania as an exporter and it seems to be cultivating mostly for local/regional use.[19] Seizures of herbal cannabis from Albania have become very rare in the last five years.[20]

Lebanon continues to be a source country in the Middle East. Production in Lebanon has declined drastically compared to the early 1990s, but farmers appear to be resuming cannabis cultivation.

Overall production and consumption of cannabis resin in the Americas are limited. The most important resin producer in the region is Jamaica (3% of annual seizures). Paraguay is also mentioned in 2% of the cases but is more important as a cannabis herb producer. The cultivation area in Paraguay is estimated at 6,000 ha.[21]

Fig. 54: Main source countries of cannabis resin according to the ARQs in the period 2005-2007 and 2002-2004*

*Number of times that countries were identified as source countries, represented as proportion of countries reporting.
Source: UNODC, Annual Reports Questionnaire data.



UNODC has had consultations with relevant Government institutions to conduct a survey in Paraguay to collect more precise information.[22]

Table 18: Main source countries of cannabis resin seizures according to the Individual Seizure Database in the period 2005-2007 and 2002-2004

Source: UNODC, Individual Seizure Database.

Source country	2005-2007		Source country	2002-2004	
	No. of seizures	Quantity (kg)		No. of seizures	Quantity (kg)
Morocco	811	440,747	Morocco	1,243	468,727
Afghanistan	1,083	144,387	Afghanistan	1,113	172,565
Spain	853	19,226	Pakistan	22	16,400
Pakistan	10	2,825	Spain	84	16,072
Netherlands	27	2,615	Netherlands	20	9,047
Portugal	1	2,449	Portugal	2	7,207
France	3	2,135	France	7	2,216
Germany	5	591	Belgium	9	1,764
Algeria	16	455	South Africa	6	926
Iran (I.R. of)	13	450	Germany	6	771

19 INCSR 2009.

20 World Customs Organization, *Customs and Drugs Report 2007*.

21 Secretaria Nacional Antidrogas (SENAD), 2008

22 The Government of Brazil has also been involved in the consultations as Brazil is likely to fund the survey.

Why does cannabis potency matter?

Cannabis products dominate the world's illicit drug market. The term **cannabis,** however, refers to different types of preparations derived from the plant *Cannabis sativa*, which all contain chemical substances called **cannabinoids**. The most psychoactive of these substances is Δ-9-tetrahydrocannabinol (THC). The amount of THC in a cannabis sample is generally used as a measure of "cannabis potency". In recent years, several claims of increased cannabis potency have been made.

One driving force behind the interest in cannabis potency is the possible link to mental health problems.[1] It is thought that high potency cannabis may have the potential to be more harmful.[2] Also significant may be the ratio between THC and cannabidiol (CBD), another cannabinoid believed to moderate the effect of THC. Considering the large population of cannabis users worldwide, it is important that the link between mental health problems and cannabis potency is understood.

What do we know about trends in cannabis potency?

A number of studies have been carried out to assess potential changes in potency over time. One of the most comprehensive was conducted in 2004 by the European Monitoring Centre on Drugs and Drug Addiction (EMCDDA) and concluded that that a modest increase in aggregate cannabis potency had occurred, possibly related to the use of intensive indoor cultivation methods. The authors noted that THC content nonetheless varied widely.[3] While the United Kingdom Home Office study in 2008[4] found little change: from a median potency of sinsemilla cannabis of 14% among samples in 2004/5 compared to 15% in 2008, long-term increases have been reported in the United States[5] with an average potency of 10% in 2008.

Multiple methodological issues have been raised, which impact on our capacity to generate comparable data and infer trends.[6] Important variables to be considered include the phytochemistry;[7] type of cannabis product; cultivation method; sampling; and stability. As detailed below, each of these can affect the potency estimates. Only through examining these factors can we have a more systematic, scientific and comparable assessment of cannabis potency between places and over time.[8]

Plant part used: The secretion of THC is most abundant in the flowering heads and surrounding leaves. The amount of resin secreted is influenced by environmental conditions during growth (light, temperature and humidity), sex of the plant, and time of harvest. The THC content varies between parts of the plant: from 10-12 % in flowers, 1-2 % in leaves, 0.1-0.3 % in stalks, to less than 0.03 % in the roots.

Product type: There are three main types of cannabis products: herb (marijuana), resin (hashish) and oil (hash oil). *Cannabis herb* comprises the dried and crushed flower-heads and surrounding leaves. It often contains up to 5% THC. Sinsemilla, derived from the unfertilized female plant, can be much more potent, however. *Cannabis resin* can contain up to 20% THC. The most potent form of cannabis, however, is *cannabis oil*, derived from the concentrated resin extract. It may contain more than 60% THC. The increase in market share of a particular product type can influence the reported average potency values. For example, the reported rise in the average THC content to 10% in seized samples in 2008 by the United States Office of National Drug Control Policy is associated with a market share of 40% for high potency cannabis (presumably indoor-grown).[9]

Cultivation methods: The cannabis plant grows in a variety of climates. The amount and quality of resin produced depends on the temperature, humidity, light and soil acidity/alkalinity. Outdoor-produced herbal cannabis, therefore, shows considerable variation in potency. Intensive indoor cultivation of female plants and clones, under artificial light, often without soil (hydroponic cultivation), and optimised cultivation conditions, produces cannabis of a consistently higher potency.

Sampling: Most data on cannabis potency are derived from the analysis of seized samples. This means that these samples need to be representative of the entire seizure so that inferences and extrapolations can be made.

Stability: THC is converted to cannabinol on exposure to air and light. This process reduces the THC concentration, especially in old samples which have not been stored under suitable conditions (such as a dark, cool place). It is believed that claims of increases in potency of cannabis preparations confiscated over a period of 18 years in the United States[10] may have been affected by the stability of THC in old samples.

1 Ashton CA, Pharmacology and effects of cannabis, a brief review. British journal of Psychiatry 2001; 178:101-6.

2 Smith H, High potency cannabis; the forgotten variable. *Addiction* 2005; 100: 1558-60.

3 EMCDDA, An overview of cannabis potency in Europe. 2004.

4 Hardwick S and King L. Home Office Cannabis Potency Study 2008.

5 Office of National Drug Control Policy, Press Release May 14, 2009.

6 McLaren J, Swift W, Dillon P and Allsop S. *Addiction* 2008; 103: 1100-09.

7 Phytochemistry refers to the chemical composition of plants.

8 Hunt N, Lenton S, and Witton J, Cannabis and mental health: Responses to the Emerging Evidence. Beckley Foundation Report, 2006: No 8.

9 Office of National Drug Control Policy, Press Release May 14, 2009.

10 ElSohly MA et al. Potency trends of delta-9-THC and other cannabinoids in confiscated marijuana from 1980-1997. Journal of Forensic Science 2000; 45:24-30

1.3.3 Trafficking

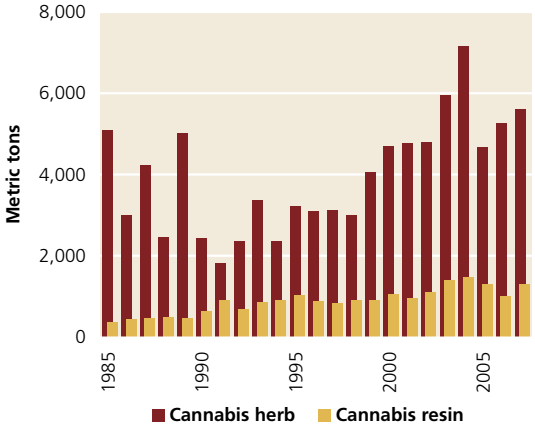
Seizures of cannabis herb and resin

Global seizures of both cannabis herb and resin increased in 2007. Seizures of cannabis herb amounted to 5,600 mt, whereas for resin, the total was some 1,300 mt. An overwhelming proportion of all cannabis herb seizures was made in the Americas (82%), mainly in Mexico and the USA, which together accounted for almost two thirds of global herb seizures. Most of the global increase in cannabis resin seizures was due to a strong increase in West and Central Europe, where seizures were up 33% compared to 2006.

The two main cannabis products, cannabis herb (also known as marijuana), and cannabis resin (commonly marketed under the name hashish), are considerably different in several aspects. The production areas for cannabis resin are much more limited in geographic terms than those of cannabis herb. Moreover, consumption of cannabis resin is concentrated in, although not limited to, West and Central Europe, while the use of cannabis herb is widespread. Thus, quite different regional and international trafficking and seizure patterns become apparent when comparing cannabis herb and resin. A specific feature of cannabis herb is that sizable amounts are thought to be produced in the countries of consumption. This is likely to lower the probability of cannabis being seized by customs and border authorities, which in many countries contribute heavily to the overall amount of drugs seized. In spite of this, a much higher number of countries and territories reported seizures of cannabis herb (165) to UNODC in the period 2005-2007 than cannabis resin (120), which can be taken as an indication of its wider use and its broader geographical spread.

Fig. 55: Cannabis herb and resin seizures (mt), 1985-2007

Source: UNODC, Annual Reports Questionnaire / DELTA



Cannabis herb seizures amounted to 5,605 mt in 2007, whereas resin seizures amounted to 1,300 mt. Both herb and resin seizures were higher in 2007 than in 2006 and 2005. However, comparing total seizures during this period, the total is still lower than in 2002-2004, when global seizures of cannabis reached record highs. Small quantities of cannabis oil were also seized in 2007 (equivalent to 418 kg).

The majority of cannabis herb seizures in 2007 were reported from Mexico (39% of the world total), followed by the USA (26%), Bolivia (Plurinational State of) (8%), Nigeria (4%), Morocco (4%), Colombia (3%) and Paraguay (3%). South Africa and Malawi, which had ranked third and fourth in 2006 after the USA and Mexico, reported much lower seizures in 2007.

Most seizures of cannabis resin, on the other hand, were made by Spain (50%), followed by Morocco (9%), Iran (Islamic Republic of) (7%), Pakistan (8%), Afghanistan (6%), Belgium (5%), Portugal (3%) and France (3%).

176 countries and territories reported cannabis seizures (both herb and resin) to UNODC in the period 2005-2007.

Most cannabis herb seizures are reported by North America

In contrast to other drugs, trafficking in cannabis herb continues to be mostly intraregional. In 2007, an overwhelming proportion of all cannabis herb seizures was made in the Americas (82%), mainly in Mexico (2,177 mt) and the USA (1,447 mt), which together accounted for almost two thirds of global herb seizures. Cannabis herb seizures increased both in the USA and Mexico in 2007 compared to the previous year.

South America including Central America and the Caribbean accounted for 17% of global cannabis herb seizures. The largest seizures were made in Bolivia (Plurinational State of) (424 mt), which reported over

three times more cannabis herb seizures than in 2006, followed by Colombia (183 mt), Paraguay (172 mt), Argentina (75 mt) and Venezuela (Bolivarian Republic of) (25 mt). In the period 2005-2007, Paraguay was mentioned as the source of cannabis herb seized in South America more often than other countries in the region. However, many other countries were mentioned as well, including Bolivia, Brazil, Colombia and Peru. Paraguay was also reported several times as the source of cannabis resin.

Large seizures were also made in Africa, accounting for 11% of global cannabis herb seizures. In 2007, more seizures were made in Morocco, several West African countries and Kenya. Less seizures were reported from Egypt, Malawi and South Africa, which resulted in an overall decline in herb seizures for Africa as a region compared to one year earlier.

The largest cannabis herb seizures made in Asia – which accounted for 4 % of all seizures in 2007 – were reported by India (108 mt), followed by Indonesia (32 mt), Kazakhstan (22 mt), Thailand (15 mt) and Nepal (8 mt).

Cannabis herb seizures in Europe – representing 3% of the world total in 2007 – increased slightly but remained well below the seizure levels reached between 1997 and 2004. As in 2006, the largest seizures were reported by the Russian Federation (27 mt), Turkey (26 mt) and the United Kingdom (20 mt).[1] Europe is the only region which also "imports" significant amounts of cannabis herb from other regions.

Oceania reported only a small fraction of global seizures in 2007 (2.7 mt), most of which was reported by Australia (2.4 mt).

Main cannabis resin trafficking routes run from Morocco and South-West Asia to West and Central Europe

In 2007, global cannabis resin seizures increased by 29% and accounted for 1,296 mt, which was higher than in most years since 1985 with the exception of 2003 and 2004. A large number of countries reported resin seizures in the period 2003-2007 though this was smaller than the number of countries reporting seizures of cannabis herb. Trafficking patterns seem to follow the established routes from the two main resin production areas in Morocco and South-West Asia to the main consumption areas in West and Central Europe. As the consumption of cannabis resin is mainly concentrated in West and Central Europe, trafficking to other regions, as reflected in seizures, took place at a far lower level.

Most seizures of cannabis resin reported by countries of West and Central Europe

Most of the global increase in cannabis resin seizures was due to a 33% increase in West and Central Europe, compared to 2006. In 2007, 849 mt - two thirds of global cannabis resin seizures - were made in West and Central Europe. Cannabis resin seized in Europe continued to originate mainly from Morocco. Spain accounted for 50% of global resin seizures, and for 77% of seizures in the West and Central Europe subregion. In 2007, resin seizures in Spain increased by 42% compared to the previous year, and in Morocco, the increase was 33%. Despite an increase in cannabis resin seizures in Europe, the amounts seized in 2006 and 2007 were still lower than those reported in 2003 and 2004.

Morocco accounted for most cannabis seizures made in Africa (118 mt), followed by Algeria (17 mt) and Egypt (6 mt), both of which also reported higher seizures than in 2006. While most cannabis resin produced in Morocco is destined for Europe, trafficking also takes place to or via North African and sub-Saharan countries.

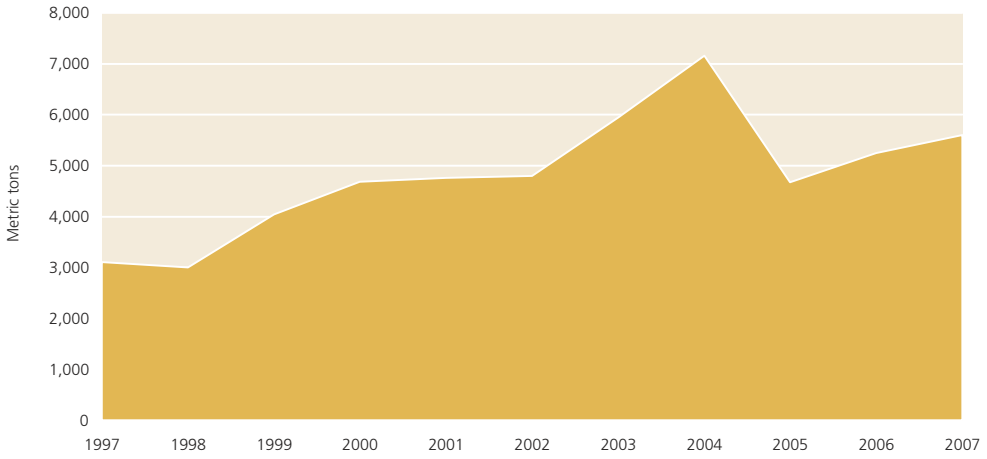
In 2007, as in the year before, South West Asia reported the second highest cannabis seizures worldwide, representing 22% of the global total. Most seizures in the region were made by Pakistan (8% of global seizures or 110 mt), followed by Iran (Islamic Republic of) (7% or 90 mt) and Afghanistan (6% or 84 mt). Cannabis resin seizures more than doubled in Iran and Afghanistan, while they remained at about the same level in Pakistan. The strong increase in cannabis resin seizures in this subregion confirms its role as an important cannabis resin producer. A rapid assessment of cannabis conducted by UNODC in 2008 confirmed the existence of cannabis cultivation for resin production in most provinces in Afghanistan.

Most of the cannabis resin produced in the region is trafficked towards Europe. However, reports confirm that some cannabis resin originating in South-West Asia also reached other Asian as well as North American countries.

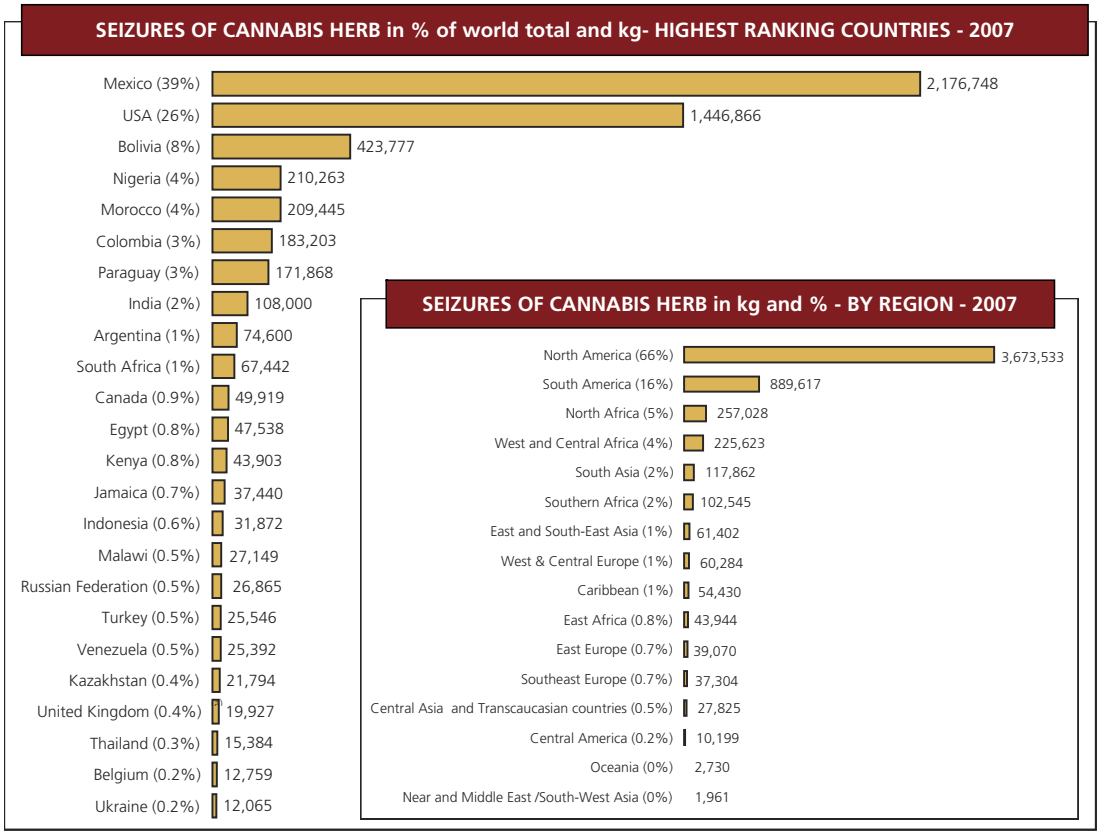
South Asia reported about 6 mt or 0.5% of global seizures in 2007. India (3.8 mt) and Nepal (2.1 mt) continued to report the majority of cannabis resin seizures made in the region. Both countries are considered to be cannabis resin producers.

1 Data refer to England and Wales only.

Fig. 56: Global seizures of cannabis herb, 1997-2007



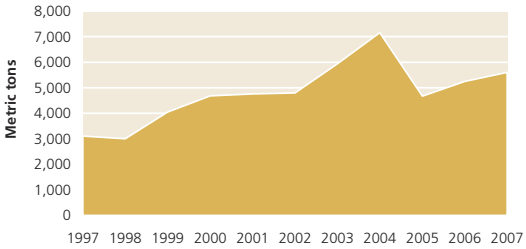
Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Metric tons	3,105	2,998	4,043	4,680	4,759	4,801	5,941	7,154	4,671	5,247	5,605



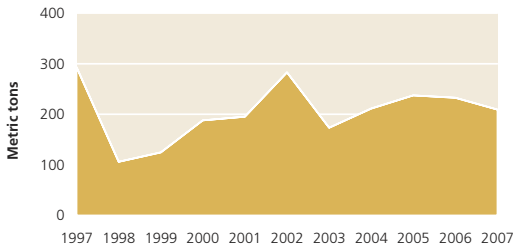
[a] Data refer to England and Wales only.

Fig. 57: Global seizures of cannabis herb, 1997-2007

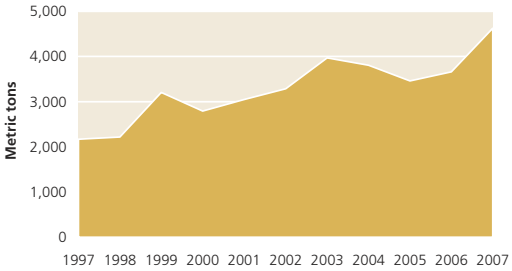
CANNABIS HERB INTERCEPTED - WORLD: 1997 - 2007



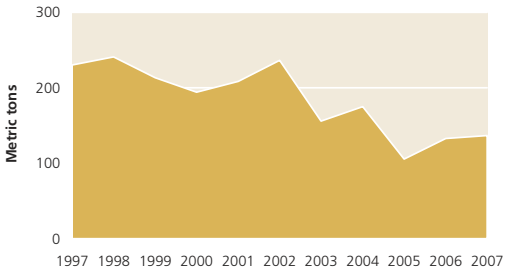
CANNABIS HERB INTERCEPTED - ASIA: 1997 - 2007



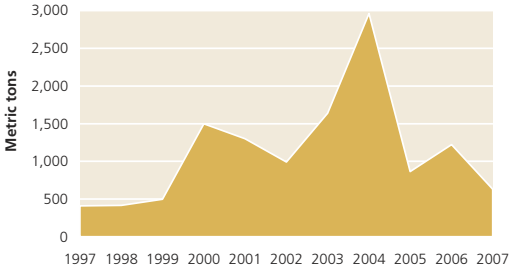
CANNABIS HERB INTERCEPTED - AMERICAS: 1997 - 2007



CANNABIS HERB INTERCEPTED - EUROPE: 1997 - 2007



CANNABIS HERB INTERCEPTED - AFRICA: 1997 - 2007



CANNABIS HERB INTERCEPTED - OCEANIA: 1997 - 2007

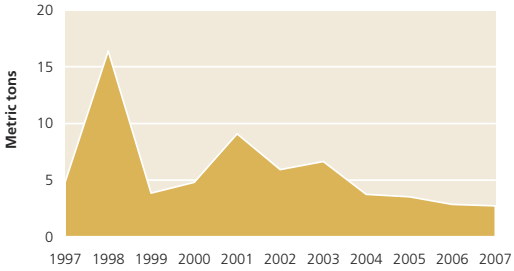
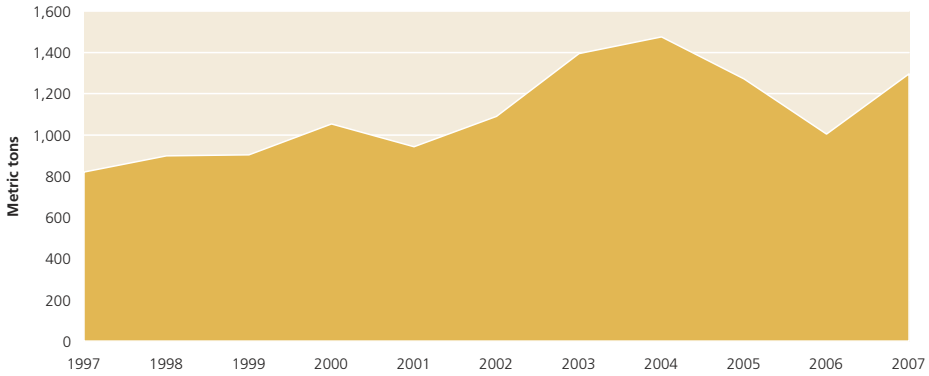
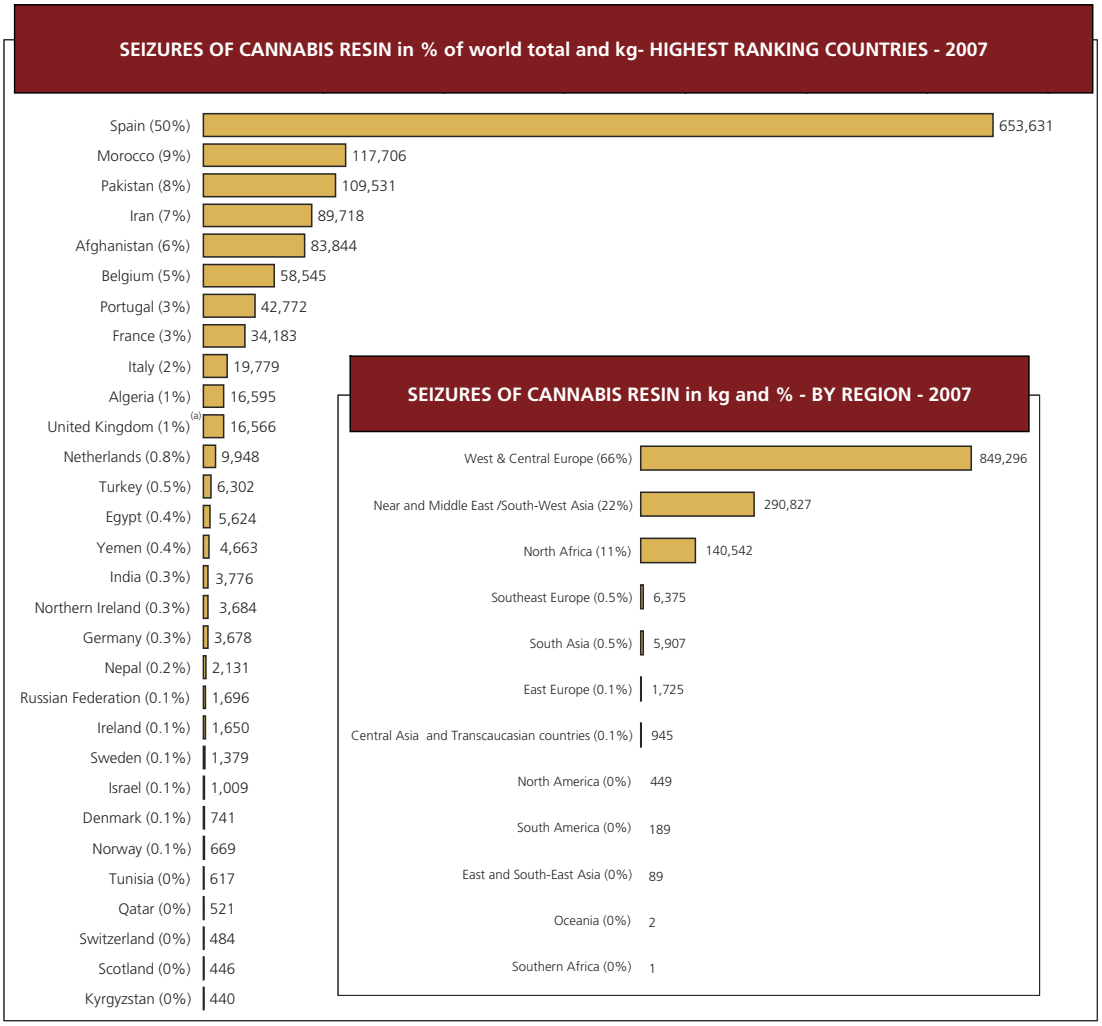


Fig. 58: Global seizures of cannabis resin, 1997-2007



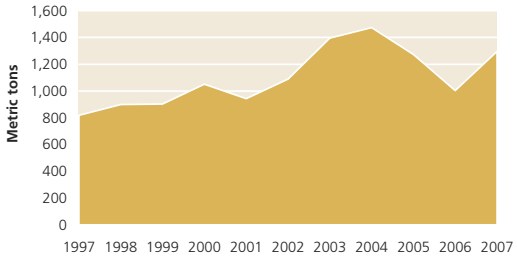
Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Metric tons	819	899	902	1,052	943	1,090	1,394	1,474	1,272	1,003	1,296



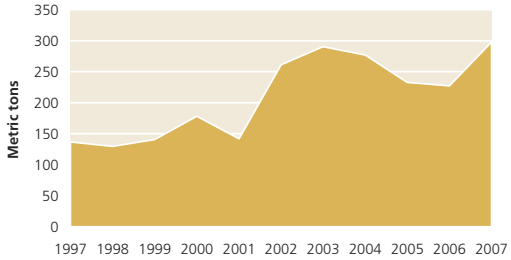
[a] Data refer to England and Wales only.

Fig. 59: Global seizures of cannabis resin, 1997-2007

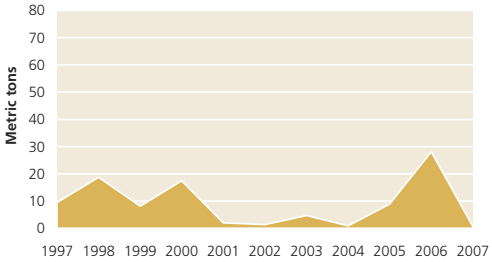
CANNABIS RESIN INTERCEPTED - WORLD: 1997 - 2007



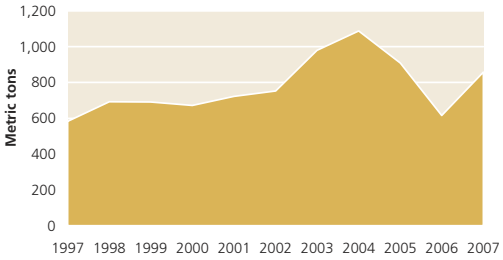
CANNABIS RESIN INTERCEPTED - ASIA: 1997 - 2007



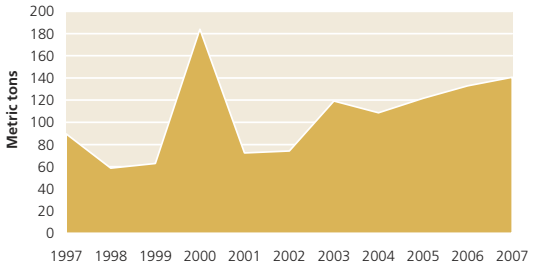
CANNABIS RESIN INTERCEPTED - AMERICAS: 1997 - 2007



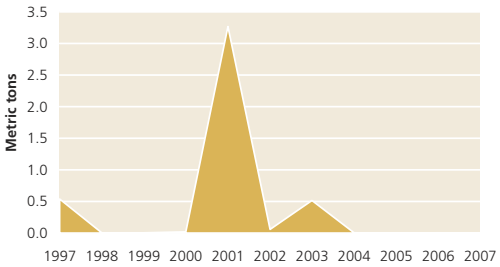
CANNABIS RESIN INTERCEPTED - EUROPE: 1997 - 2007



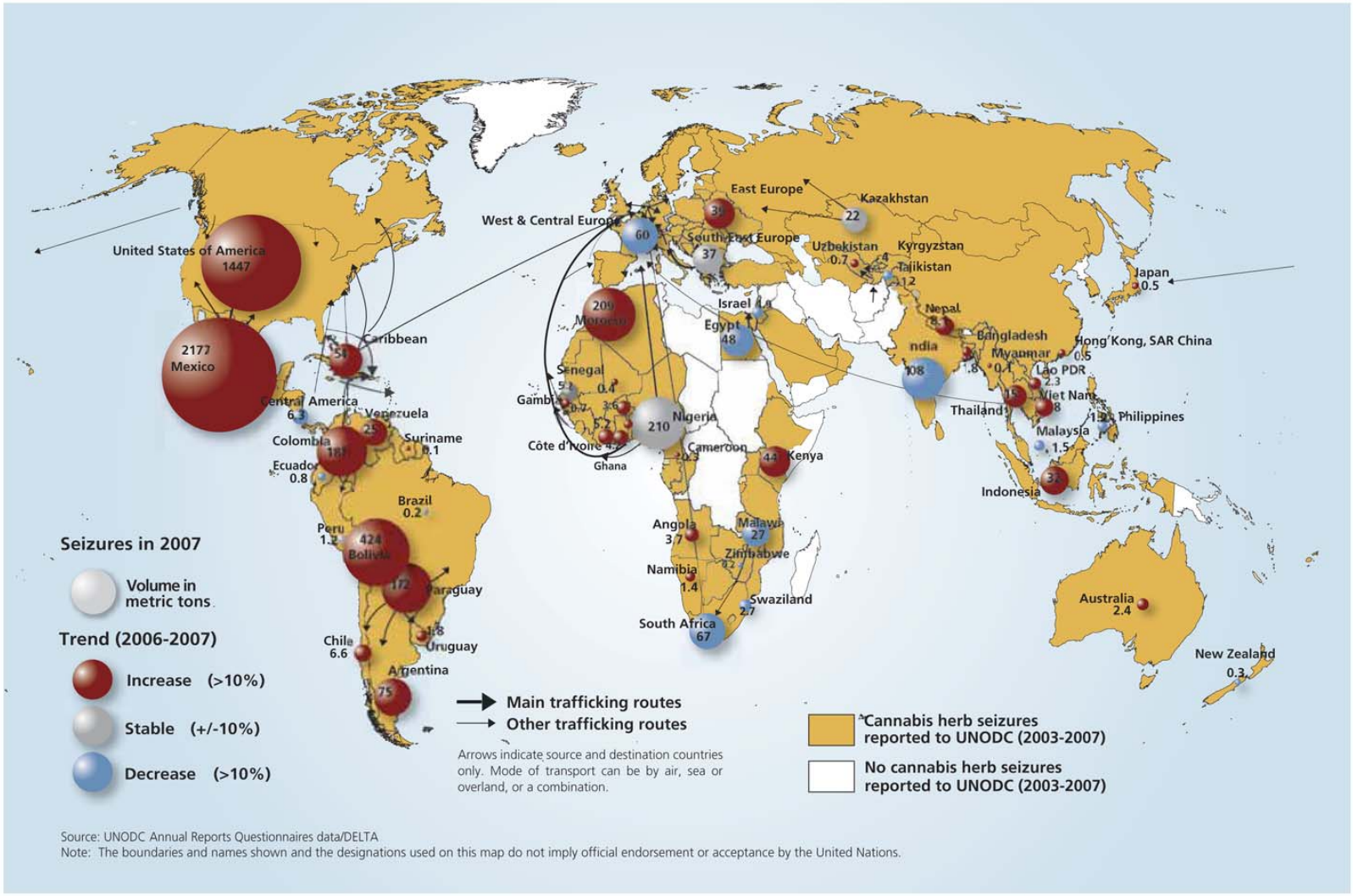
CANNABIS RESIN INTERCEPTED - AFRICA: 1997 - 2007



CANNABIS RESIN INTERCEPTED - OCEANIA: 1997 - 2007

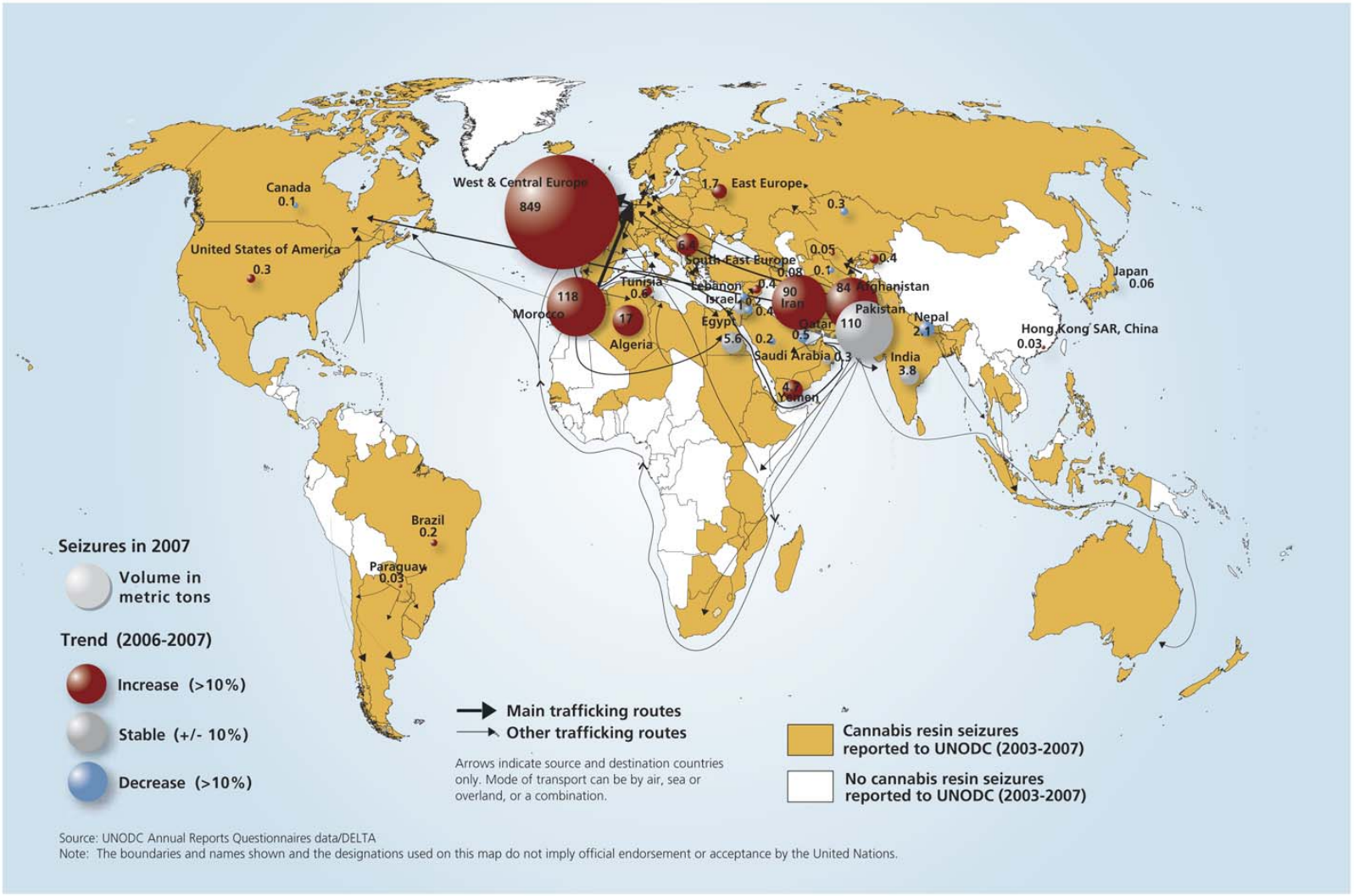


Map 14: Trafficking in cannabis herb, 2007 (countries reporting seizures of more than 100 kg)



Source: UNODC Annual Reports Questionnaires data/DELTA
Note: The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.

Map 15: Trafficking in cannabis resin, 2007 (countries reportint seizures of more than 10 kg)



Source: UNODC Annual Reports Questionnaires data/DELTA
Note: The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.

1.3.4 Consumption

The global number of cannabis users is estimated to range from some 142.6-190.3 million persons, equivalent to a range from 3.3 to 4.4% of the population aged 15-64 who used cannabis at least once in 2007.

This year, significant revisions were made to the approach taken in making global and regional estimates of the number of people who use drugs. The new estimates reflect the uncertainties surrounding these data (which exist due to data gaps and quality) and are presented in ranges rather than absolute numbers. Because of this revision, previous point estimates are not comparable to the current ones.

Table 19: Estimated number of people who used cannabis at least once in the past year and proporton of population aged 15-64, by region, 2007

Region/subregion	Estimated number of users annually (lower)	Estimated number of users annually (upper)	As percent of population aged 15-64 (lower)	As percent of population aged 15-64 (upper)
Africa	28,850,000	56,390,000	5.4	10.5
North Africa	3,670,000	9,320,000	3.0	7.6
West and Central Africa	16,110,000	27,080,000	9.3	15.6
Eastern Africa	4,490,000	9,030,000	3.4	6.9
Southern Africa	4,570,000	10,950,000	4.3	10.2
Americas	41,450,000	42,080,000	7.0	7.1
North America	31,260,000	31,260,000	10.5	10.5
Central America	580,000	580,000	2.4	2.4
The Caribbean	1,110,000	1,730,000	4.3	6.7
South America	8,500,000	8,510,000	3.4	3.4
Asia	40,930,000	59,570,000	1.6	2.3
East/South-East Asia	4,110,000	19,860,000	0.3	1.3
South Asia	27,490,000	27,490,000	3.2	3.2
Central Asia	1,890,000	2,020,000	3.8	4.1
Near and Middle East	7,440,000	10,200,000	3.1	4.3
Europe	28,890,000	29,660,000	5.2	5.4
Western/Central Europe	20,810,000	20,940,000	7.7	7.7
East/South-East Europe	8,080,000	8,720,000	2.9	3.1
Oceania	2,460,000	2,570,000	11.0	11.5
Global	**142,580,000**	**190,270,000**	**3.3**	**4.4**

Estimates of cannabis use for the People's Republic of China

A number of indirect indicators, including seizures, arrest data and treatment data, suggest that cannabis use in the People's Republic of China is significantly lower than in other East and South-East Asian countries. China has so far, however, not undertaken any national household survey of illicit drug use. No national estimate of cannabis use exists.

One World Health Organization (WHO) school survey, conducted in 2003 in four cities, assessed drug use. It found lifetime prevalence rates of drug use among 13-15 year old pupils ranging from 0.9% in Beijing to 2.5% in Hangzhou (eastern China). The unweighted average of the four cities was 1.75%.

In comparison, the lifetime prevalence of drug use among 13-15 year old pupils in Thailand in 2008 was 6.1%. A 2007 Thai household survey found an annual prevalence of cannabis use of 1.2% among the general population (aged 12-65). In the Philippines, data from a 2003 WHO school survey among 13-15 year old students (life-time prevalence of 6.7%) was similarly far higher than a recent household survey estimate (annual prevalence of around 0.8% in 2008).

In the regional estimate calculated for cannabis use, all countries with no national data available, including China, were assigned the range from other countries in the region. This means that there was a wide range applied from existing national prevalence estimates, namely from 0.23% to 1.34%

UNODC has not applied the school data estimate for China to make an estimate for 15-64 year olds across the country, because it was based on only four cities that do not necessarily reflect the national picture of cannabis use. This means that the regional and global range of estimated cannabis users is very large, because of the sheer size of China's population. However, using such an estimate would reduce the range of uncertainty in the estimates for Asia by 25%. This highlights the great importance that estimates of the level of drug use in the world's populous countries (and in this case, their absence) has upon our confidence in global figures.

Use stabilizing or declining in North America

Cannabis use declined in North America over the last decade. In 2007/08 it seems to have stabilized at the lower levels.

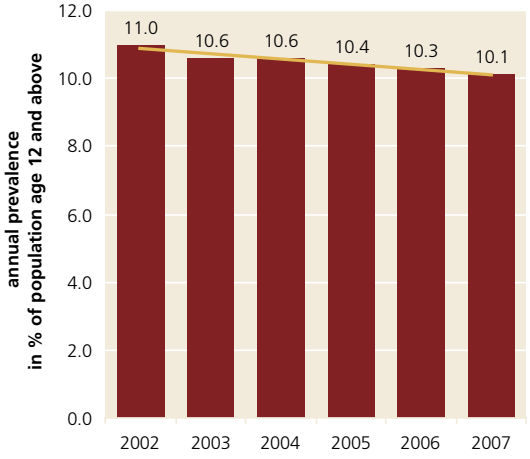
Drug tests, which are regularly conducted among the US workforce, found a decline in the proportion of positive cannabis tests among the general US workforce from 3.4% in 1997 to 2.3% in 2007, equivalent to a decline of 31% over the last decade. The figures suggest that the USA may be heading towards a stabilization of cannabis use at around 2%. In 2008 2.1% of the workforce tested positiv for cannabis.

The decrease can also be observed in the total population using household data. Over the 2002-2007 period the annual prevalence of cannabis use declined gradually, from 11% of the population aged 12 and above in 2002 to 10.1% in 2007.

The last national Canadian Addiction Survey (CAS), conducted in 2004, found a prevalence rate of 14.1% among the population aged 15 and above[1] - thus exceeding the prevalence of cannabis use in the USA. The highest levels of cannabis use were reported in the province of British Columbia, located at the Pacific coast (16.8%). Though data show that the differences across provinces in Canada or across states in the USA are not negligible, it should be pointed out that the

Fig. 60: USA: annual prevalence of cannabis use, 2002-2007

Source: SAMHSA, *Results from the 2007 National Survey on Drug Use and Health, National findings*, Rockville, Maryland, 2008.



1 Health Canada, *Canadian Addiction Survey (CAS), Detailed Report*, March 2005.

differences are far less pronounced than, for instance, across countries in Europe or South America.

A significant decline in cannabis use over the last few years was found among high school students in North America. Cannabis use among 8th-12th graders in the USA fell by 21% between 1998 and 2008. A decline in cannabis use over the last decade was also reported among high-school students in the province of Ontario, Canada.

Increases reported in Latin America

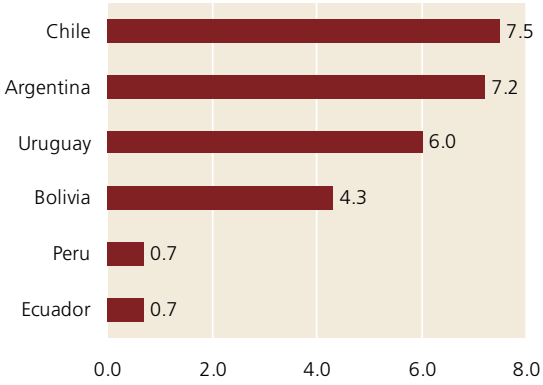
In contrast to the declining trend in North America, increases in cannabis use have been reported in countries in Latin America and the Caribbean in recent years, notably in 2007. Eleven countries reported rising levels of cannabis use in 2007, up from seven in 2005. Seven countries saw a stable trend, but not a single country reported a decline in 2007. The increase across the region was also identified by the Latin American Epidemiological Network (REDLA).[2]

Despite the increasing trend, cannabis use levels are still significantly lower in South America than in North America, as reflected in data collected in school surveys and household surveys.

Comparative household surveys among the general population were conducted in six South American states in 2006/07 by UNODC and the Inter-American Drug Abuse Control Commission (CICAD). These identified the highest levels of cannabis use in Chile, followed by Argentina and Uruguay. Far lower levels were reported in Peru and Ecuador.

Fig. 61: Cannabis use in selected South American countries in 2006/07*

Source: UNODC and CICAD, *Elementos orientadores par alas Políticas Públicas sobre Drogas en la Subregión,* Lima 2008.



*Sampled populations vary slightly. Figures not directly comparable.

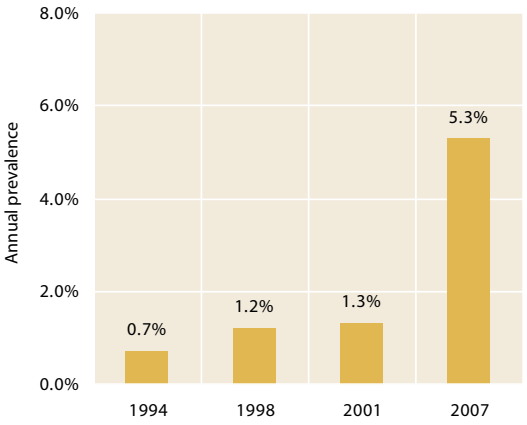
2 CICAD Observer, "REDLA Network Identified Worrisome Trends in Drug Use across Latin America", June 2008, http://www.cicad.oas.org/oid/NEW/Information/Observer/08_01/REDLA.asp

increase in the annual prevalence rate from 3.7% in 1999 to 6.9% in 2006, among the population aged 12-65. Moreover, studies among high school students in Argentina (aged 13-17) showed an increase in the annual prevalence rate of cannabis use from 3.5% in 2001 to 8.1% in 2007.

A clear upward trend is also reflected in data from neighbouring Uruguay. Following moderate use rates in the 1990s, the annual prevalence of cannabis use rose quadrupled, from 1.3% among the population aged 15-65 in 2001 to 5.3% in 2007.

Fig. 62: Uruguay: annual prevalence of cannabis use among the population aged 15-65, 1994-2007

Sources: Observatorio Uruguay de Drogas (OUD), *Encuesta Nacional en Hogares sobre Consumo de Drogas 2007* and Secretaria Nacional de Drogas y Junta Nacional de Drogas, *Encuesta Nacional de Prevalencia del Consumo de Drogas 2001.*



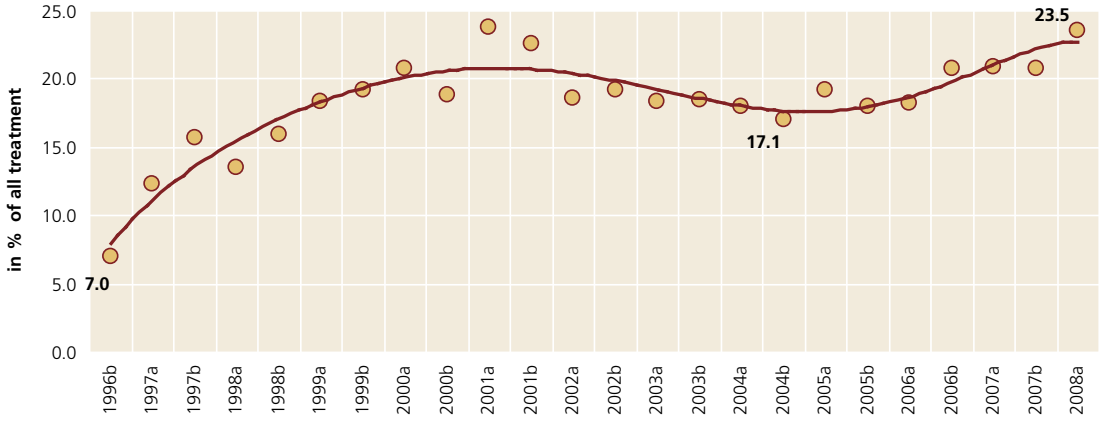
An increase in cannabis use was also reported in Brazil, the largest country in South America. The annual prevalence of cannabis use more than doubled, from 1% in 2001 to 2.6% in 2005[3] and – according to the Brazilian authorities it appears to have continued rising in subsequent years.

Strong increases in cannabis use were also reported in Chile. The annual prevalence of cannabis use rose from 3.7% in 1994 to 7.5% in 2006.

3 CEBRID, Il Levantamento Domiciliar sobre o Uso de Drogas Psicotrópicas no Basil: Estudo Envolvendo as 108 Maiores Cidades do Pais, 2005, Sao Paolo 2006 and CEBRID, Il Levantamento Domiciliar sobre o Use de Drogas Psicotrópicas no Basil: Estudo Envolvendo as 107 Maiores Cidades do País, Sao Paolo 2002.

Fig. 63: South Africa: cannabis as primary drug of abuse in treatment demand*, 1996-2008

* unweighted average of treatment (incl. alcohol) in 7 provinces.
Source: SACENDU, "Monitoring Alcohol & Drug Abuse Trends in South Africa, July 1996 – June 2008", *Research Brief*, Vol. 11 (2), 2008.



Cannabis use is increasing in Africa

From a total of 21 African countries reporting cannabis use trends for 2007, 7 countries saw use levels rising and 4 countries reported a decline. The rest were stable. These data suggest that overall cannabis use continued to rise in Africa in 2007. The increase, however, may be losing momentum. While 7 African countries saw an increase in cannabis use in 2007, the comparable numbers were 12 in 2006 and 18 in 2004.

The only systematic monitoring of drug use in Africa is taking place in South Africa, based on treatment demand. Data for South Africa suggest that treatment demand for cannabis use increased over the first two quarters of 2008. Including alcohol, cannabis accounted for 23.5% of substance abuse-related treatment demand in South Africa during this period.

In many European countries, use is stabilizing or declining

In contrast, cannabis use in Europe has stabilized or shown a downward trend in a number of countries. Increased prevention efforts and the spread of knowledge on the health risks, partly related to the emergence of high-potency cannabis, seems to have contributed to the stabilization or downward trend. Some of the stabilization/decline may be linked to decreases of cannabis resin production in Morocco, Europe's main source country of hashish, though such supply reductions seem to have been partly offset by rising levels of cannabis herb production within Europe.

In the UK, which used to be Europe's largest cannabis market, a clear downward trend has been observed in recent years. In England and Wales cannabis use fell from a prevalence rate of 10.9% among the population aged 16-59 in 2002/03 to 7.4% in 2007/08. The decline among youth started several years before the decline among the general population. In fact, annual prevalence of cannabis use among people aged 16-24 fell from 28.2% in 1998 to 17.9% in 2007/08, a decline of 37% over the last decade. The overall prevalence estimate for the United Kingdom as a whole would be around 8.1%, equivalent to some 3.2 million persons.

In Spain, an important cannabis market due to its strategic location close to the main cannabis resin production centers of Morocco, household survey data showed a moderate decline, from a peak of 11.3% of the population aged 15-64 in 2003 to 10.1% in 2007. Data suggest that the strong upward trend over the 1993-2003 period has thus started being reversed. The total number of cannabis users in Spain is now estimated at around 3 million persons.

Fig. 64: Spain: annual prevalence of cannabis use among the population aged 15-64

Source: Delegación del Gobierno para el Plan Nacional Sobre Drogas, "Informe de la Encuesta Domiciliaria sobre Alcohol y Drogas en España (Edades) 2007/08", October 2008.

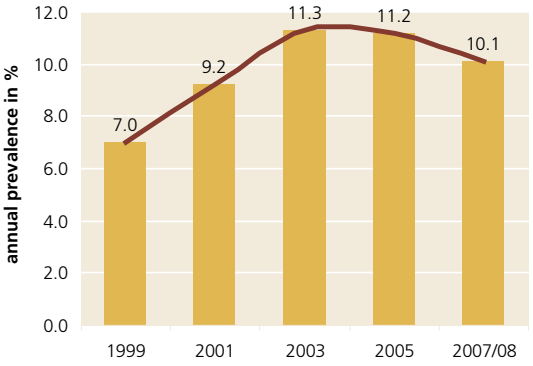
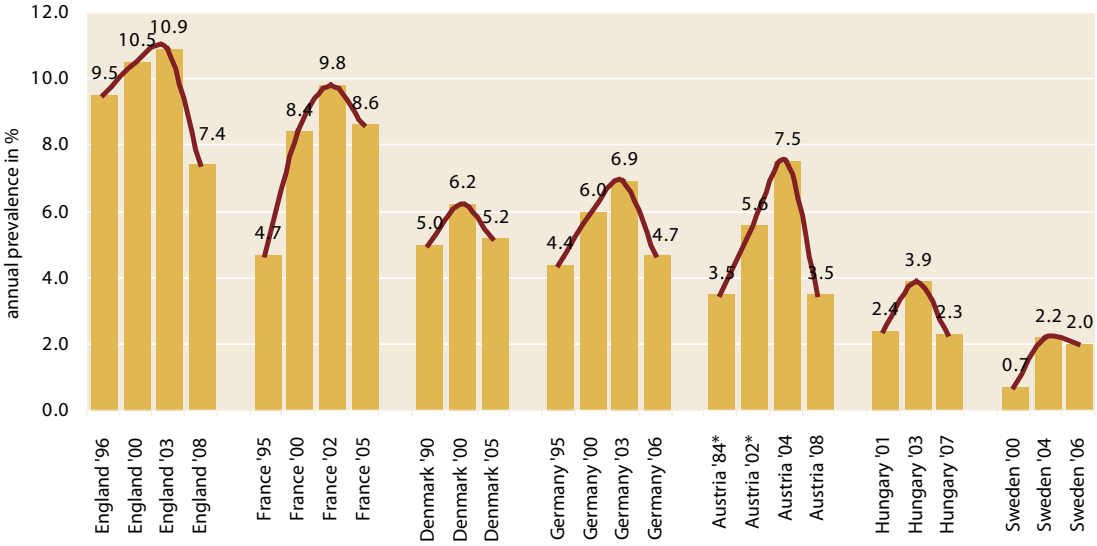


Fig. 65: England & Wales, France, Denmark, Germany, Austria, Hungary and Sweden: annual prevalence of cannabis use in % of the young and adult population[a]

[a] England and Wales in % of population aged 16-59; France: in % of population aged 15-64; Germany: in % of population aged 18-59, 1995-2003; in % of population aged 18-64 in 2006; Denmark: in % of population aged 16+ in 1990 and in % of population aged 16-64 in 2005; Austria: in % of population 15-65. * UNODC estimate for Austria for 1984 extrapolated from results of a national study in 1984 among 15-40 year olds; UNODC estimate for 2002 based on several local studies conducted around 2002, reported in UNODC's 2004 World Drug Report.

Sources: UNODC, Annual Reports Questionnaire data; EMCDDA, Statistical Bulletin; Ludwig Boltzmanninstitut, "Österreichweite Repräsentativerhebung zu Substanzgebrauch – Erhebung 2008" (Draft), Vienna 2009".



A similar trend of rising cannabis use in the 1990s followed by some decline in recent years can be also noticed in recent household surveys from a number of other European countries.

Cannabis use seems to have remained stable in the Netherlands, one of the key cannabis production and redistribution centres in Europe. Available household survey data, however, only reflect the situation over the first few years of the new millennium (5.5% in 2001 and 5.4% in 2005). Despite this stabilization, treatment demand related to cannabis abuse increased strongly between 2000 and 2005, possibly reflecting the emergence and spread of higher-potency cannabis on the market. The number of (outpatient) addiction care clients with primary cannabis problems rose by more than 75% between 2000 and 2005.[4] The average THC content of domestically grown Dutch marijuana almost doubled, from 8.6% in 2000 to 16% in 2007.

Following increases in the 1990s, cannabis use levels also remained quite stable in some of the new Central European EU member states, including Poland (2.8% in 2002; 2.7% in 2006), the Czech Republic (10.9% in 2002; 9.3% in 2004) and Slovakia (7.2% in 2000; 6.9% in 2006).

4 Trimbos Instituut, *The Netherlands National Drug Monitor, Annual Report 2007*, Utrecht 2008.

... although use is increasing in some European countries

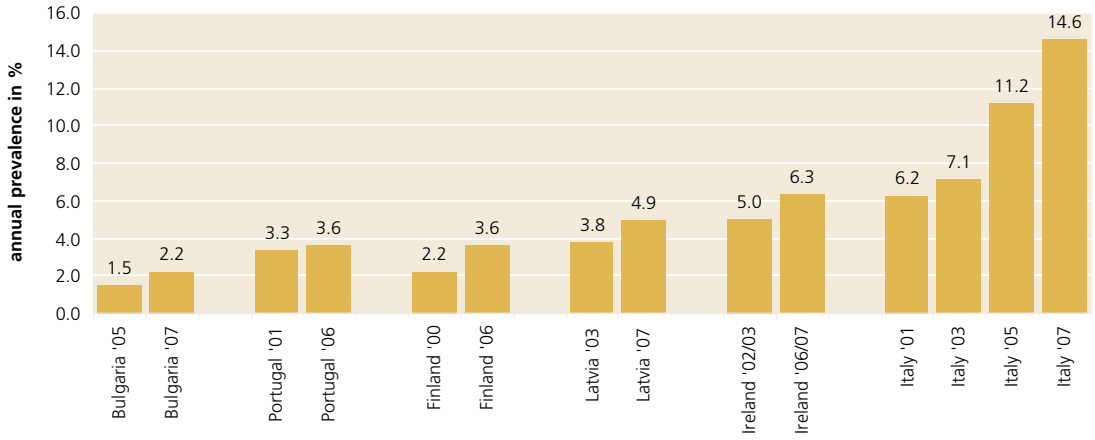
In contrast, cannabis use appears to have increased in some of the countries at the geographical fringes of Europe such as Ireland, Portugal, Bulgaria, Latvia and Finland. However, some of these increases were small and not statistically significant.

The situation is different for Italy, where the cannabis prevalence rates more than doubled in recent years (7.1% in 2003; 14.6% in 2007). Italy has evolved as Europe's single largest cannabis market, with some 5.7 million users in 2007, out of a total of about 30 million users in Europe. This reflected, inter alia, widespread availability of cannabis herb from Albania and the Netherlands, and rising domestic production in southern Italy. In contrast to many other European countries, the average cannabis potency has remained stable in Italy, fluctuating at around 6%, which is a low level by European standards. This may explain that the negative consequences of cannabis consumption, found in many other European countries, may have been less obvious in Italy.

Despite of the increases in cannabis use in Italy, overall cannabis use in Europe remained basically stable.

Fig. 66: Bulgaria, Portugal, Finland, Latvia, Ireland and Italy: annual prevalence of cannabis use in % of the young and adult population[a]

[a] in % of population aged 15-64 for Bulgaria, Portugal, Finland, Latvia, Ireland; data for Italy refer to the age group 15-44 in 2001; 15-54 in 2003 and 15-64 in 2005 and 2007.
Sources: UNODC, Annual Reports Questionnaire data, EMCDDA, Statistical Bulletin, Presidenza del Consiglio dei Ministri, *Relazione sullo Stato delle Tossicodipendenze in Italia, Anno 2007*, Rome 2008.



Cannabis use declined in the Oceania region

The downward trend of cannabis use in the Oceania region continued. The annual prevalence rate of cannabis use in Australia fell by almost one fifth to 9.1% of the population aged 14 and above between 2004 and 2007. The decline was strongest among the 14-19-year-olds, falling by 28%, indicating that prevention activities in schools may have played a key role in lowering cannabis use.

Household survey data for New Zealand also showed a decline of cannabis use in recent years, though this was less pronounced than in Australia. The annual prevalence of cannabis use fell from 20.4% among the population aged 15-45 in 2003 to 17.9% in 2007, a decline of 12%.

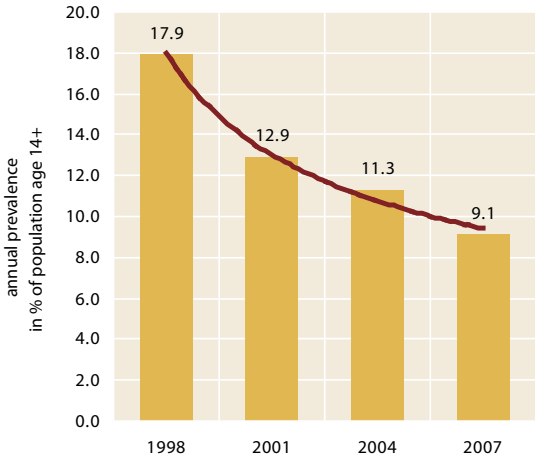
Cannabis use appears to be rising in Asia

According to expert opinion, expressed by the national drug authorities reporting to UNODC, cannabis use appears to be rising in Asia. However, most countries in this region do not have effective drug abuse monitoring systems which means that no recent cannabis prevalence data exist. Trends from Asia - largely based on expert perceptions - must thus be treated with caution.

The number of Asian countries reporting an increase in cannabis consumption rose from 9 in 2005 to 13 in 2007. Increases in 2007 were reported by Azerbaijan, the People's Republic of China, Indonesia, the Islamic Republic of Iran, Kazakhstan, Lebanon, Mongolia, Myanmar, Oman, the Philippines, Sri Lanka, Tajikistan and Uzbekistan. Six countries/territories reported a decline, whereas 11 reported stable levels of cannabis use in 2007.

Fig. 67: Australia: annual prevalence of cannabis use among the population aged 14 and above, 1998-2007

Source: Australian Institute of Health and Welfare, *2007 National Drug Strategy Household Survey*, April 2008.

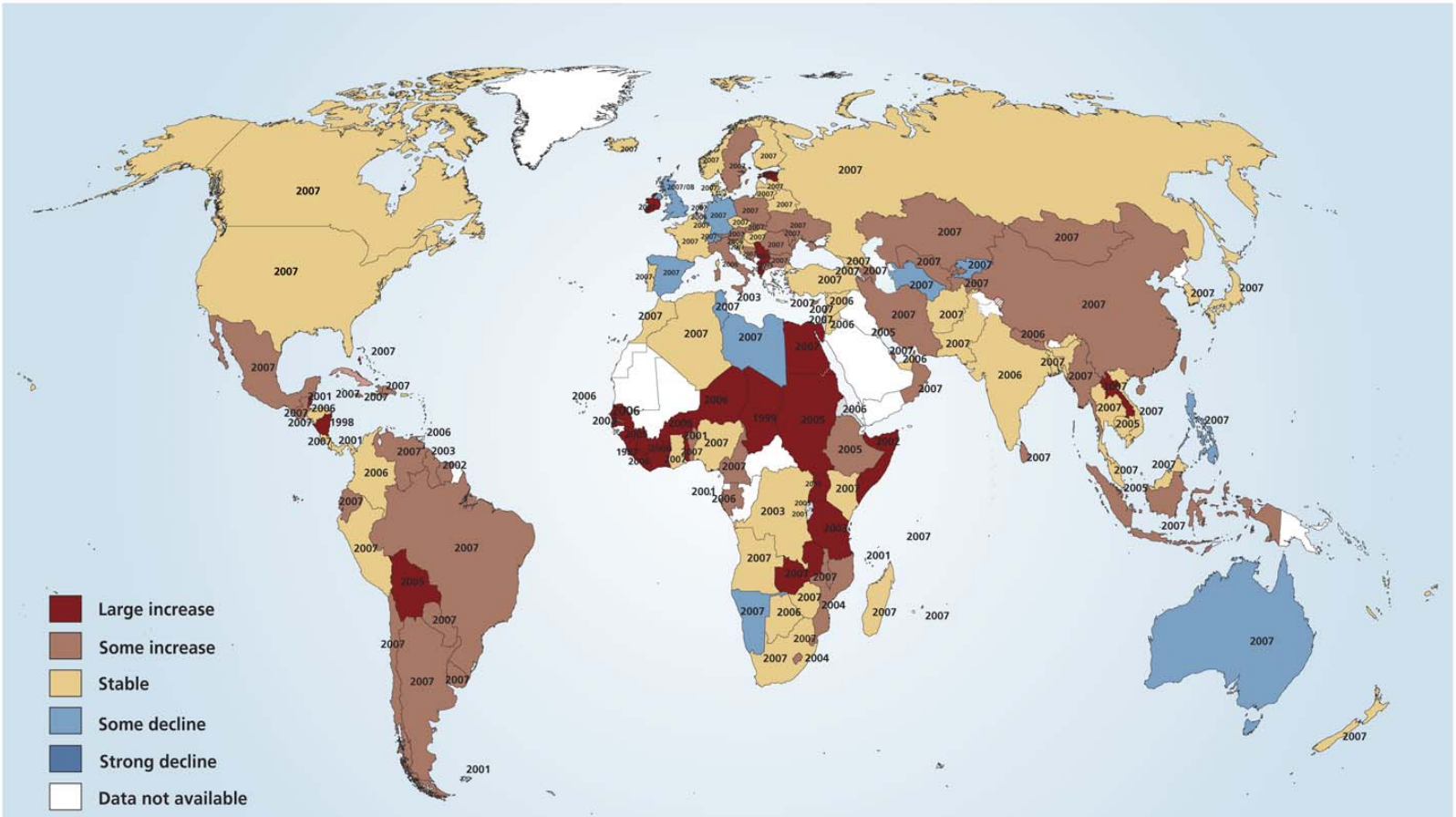


Map 16: Ranking of cannabis in order of prevalence in 2007 (or latest year available)

Source: UNODC Annual Reports Questionnaires data/DELTA; Government Reports, US Department of State; European Monitoring Centre for Drugs and Drug Addiction (EMCDDA); Drug Abuse Information Network for Asia and the Pacific (DAINAP); UNODC Global Assessment Programme on Drug Abuse (GAP); Inter-American Drug Abuse Control Commission (CICAD); UNODC Rapid Assessment Studies, Council of Europe, ESPAD.

Note: The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.

Map 17: Changes in the use of cannabis, 2008 (or latest year available)



*Primary source: UNODC Annual Reports Questionnaires. For a few countries, UNODC has based its perception on supplementary drug trend information derived from or reported in national household surveys, United States Department of State (Bureau for International Narcotics and Law Enforcement Affairs), International Narcotics Control Strategy Report, Law Enforcement Reports, Meetings of Law Enforcement Agencies (HONLEA), UNODC Illicit Drug Trend publications for various countries, Drug Abuse Information Network for Asia and the Pacific (DAINAP), UNODC Global Assessment Programme on Drug Abuse (GAP), UNODC Data for Africa Project.

Note: The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.

1.4 Amphetamine-type stimulants market

1.4.1 Summary trend overview

In 2007, UNODC estimates that between 230 and 640mt of *amphetamines-group*[1] stimulants were manufactured. *Ecstasy-group*[2] production was between 72 and 137 mt. As amphetamine-type stimulants (ATS) can be produced virtually anywhere at relatively low cost, the locations of production are changing rapidly. Moreover, organized criminal groups are increasing the size and sophistication of manufacturing operations.

A record level of nearly 52 mt of ATS was seized worldwide in 2007. The amphetamines-group dominates ATS seizures, but there was also a marked increase in ecstasy-group seizures in 2007. Trafficking in ATS substances is most commonly intraregional, but precursor chemicals from which ATS materials are made are trafficked throughout the world.

Clear regional distinctions can be seen in ATS use patterns. In East and South-East Asia, users primarily consume methamphetamine. In the Near and Middle East, tablets sold as Captagon often contain amphetamine, and are used throughout the region. In Europe, users primarily consume amphetamine. Worldwide, between 16 and 51 million people aged 15-64 used amphetamines-group substances at least once in 2007, whereas the number who used ecstasy-group drugs is estimated at between 12 and 24 million worldwide.

1 The amphetamines-group substances include predominately methamphetamine and amphetamine, but also non-specified amphetamines (for example, tablets sold as Captagon, methcathinone, fenetylline, methylphenidate and others).

2 The ecstasy-group substances include predominately MDMA, MDA and MDEA/MDE. However, limited forensic capacity often leads to confusion about the actual content of tablets believed to be "ecstasy" (MDMA).

1.4.2 Production

Global amphetamine-group manufacture estimated between 230 and 640 mt; ecstasy 72 and 137 mt

Clandestine ATS manufacture can, and does, occur nearly everywhere. The output, however, can only be indirectly estimated, using information on use of ATS around the world and/or information about seizures. In the 2009 *World Drug Report* the estimates are based on the number of users and their yearly average consumption.[3]

UNODC estimates that in 2007, amphetamines-group manufacture amounted to between 230 and 640 metric tons. Ecstasy-group manufacture was estimated at between 72 and 137 mt. Due to the revised methodology, estimates are not comparable with previous reports.

Based on these estimates and reported seizures, the global interception range is estimated to range between 7% to 19% for amphetamines-group and from 6% to 12% for ecstasy.[4] Interception rates for regions, subregions, and individual Member States vary considerably more than the global rates.

3 Previously, UNODC utilized a multiple component model to triangulate ATS manufacture based on three sub-components: (i) global seizures of ATS end-products (drug seizures), (ii) seizures of ATS-related chemical precursor seizures, and (iii) ATS consumption (prevalence rates). See *Ecstasy and Amphetamines - A Global Survey 2003*.

4 Similar orders of magnitude were identified in a study of interception rates in New Zealand (2%-7% for amphetamines-group substances and 5%-17% for ecstasy-group substances). See Wilkins, C., Reilly, J., Rose, E., Roy, D., Pledger, M., & Lee, A. (2004). *The Socio-Economic Impact of Amphetamine Type Stimulants in New Zealand*. Centre for Social and Health Outcomes Research and Evaluation (Auckland).

Table 20: UNODC range estimates of illicit ATS manufacture, by drug group (mt)

Source: UNODC estimate. * The average amphetamine-group substance user (i.e. from casual to problem user) was estimated to consume 12 grams of prue metha/amphetamine per year (range 1.6 - 34.4) and the average 'ecstasy' user was estimated to consume 5 grams of pure MDMA per year (0.8 - 13.6). These estimates were based on a limited number of reports from various developed countries and the results may differ in developing countries or in regions outside those from which data were available.

	Amphetamines-group (methamphetamine, amphetamine)		Ecstasy-group (MDMA, MDA, and MDE/MDEA)	
	Low Estimate	High Estimate	Low Estimate	High Estimate
Annual Consumers	15,820,000	50,570,000	11,580,000	23,510,000
Average Consumption (grams/ annually) *	11.8	11.8	5.45	5.45
Metric Tons Consumed	187	597	63	128
Metric Tons Reported Seized	43.2	43.2	8.5	8.5
Metric Tons Manufactured	**230**	**640**	**72**	**137**
Intercepted (%)	19%	7%	12%	6%

Map 18: Member States reporting ATS-related manufacture* since 1990

Source: UNODC, Annual Reports Questionnaire Data / DELTA; Government reports; UNODC, Global SMART Update 2009, Volume 1 (March); *Amphetamines and Ecstasy: 2008 Global ATS Assessment* (United Nations publication, Sales No. E.08.XI.12).

ATS-related manufacture occurs in every region; highest concentrations in East and South-East Asia, North America, Europe, Oceania and Southern Africa

Since 1990, ATS-related manufacture has been reported in over 60 countries worldwide, which shows the wide spread of manufacturing. Since the last *World Drug Report*, clandestine illicit ATS-related manufacture has come to light in more than 10 additional countries with little or no history of reported manufacture, including Argentina, Azerbaijan, Brazil, Peru, Guatemala, Honduras, Iceland, India, Lebanon, Portugal[5] and Sri Lanka. Half of these emerging operations were in Latin America. Laboratories, particularly for methamphetamine, are also increasing in size, sophistication, and production yields as organized crime groups increase their interest in manufacture.[6]

In 2007, 16% fewer ATS-related laboratories[7] were reported to UNODC (6,990). Most laboratory incidents (91%) were small methamphetamine operations– due in large part to its simplicity of manufacture and

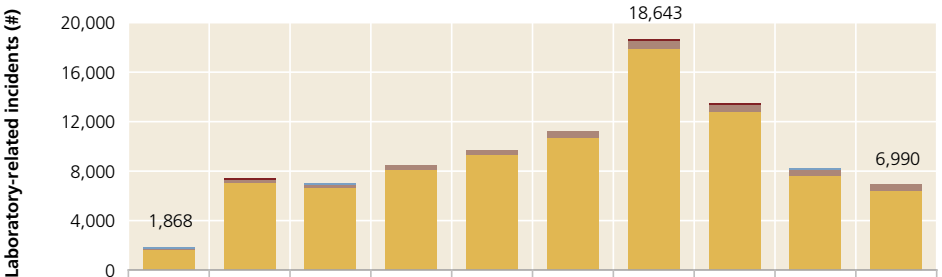
5 *Amphetamine-type stimulants in the European Union* 1998-2007: Europol contribution to the Expert Consultations for the UNGASS assessment. Europol (The Hague, July 2007).

6 *Amphetamines and Ecstasy: 2008 Global ATS Assessment* (United Nations publication, Sales No. E.08.XI.12); UNODC, Global SMART Update 2009, Volume 1 (March).

7 The term ATS-related is because there is no standardized definition of a clandestine laboratory. Thus figures reflect any stage of a seized laboratory operation reported to UNODC, such as a location containing laboratory equipment and chemicals in preparation for manufacturing, a location where synthesis or tableting are/were occurring, and toxic dumpsites where chemicals and equipment are illicitly discarded.

Fig. 68: ATS laboratories (all sizes) reported to UNODC, by type, 1998-2007

Source: UNODC, Annual Reports Questionnaire Data / DELTA.



	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Other synthetics	34	66	19	5	24	69	53	64	30	26
Ecstasy Group	34	62	64	70	58	50	87	62	56	72
Amphetamine (& combinations)	142	257	336	357	376	475	650	529	514	453
Methamphetamine	1,658	7,019	6,609	8,166	9,323	10,664	17,853	12,782	7,649	6,439
Total ATS laboratories	1,868	7,404	7,028	8,598	9,781	11,258	18,643	13,437	8,249	6,990

availability of inexpensive precursor chemicals. These were concentrated in North America (particularly the USA), and to a lesser extent Oceania, and Central and Eastern Europe. Methamphetamine laboratories are also increasingly found in large industrial-sized operations run by large criminal organizations, particularly in East and South-East Asia and North America, although significant operations recently emerged in South Asia.

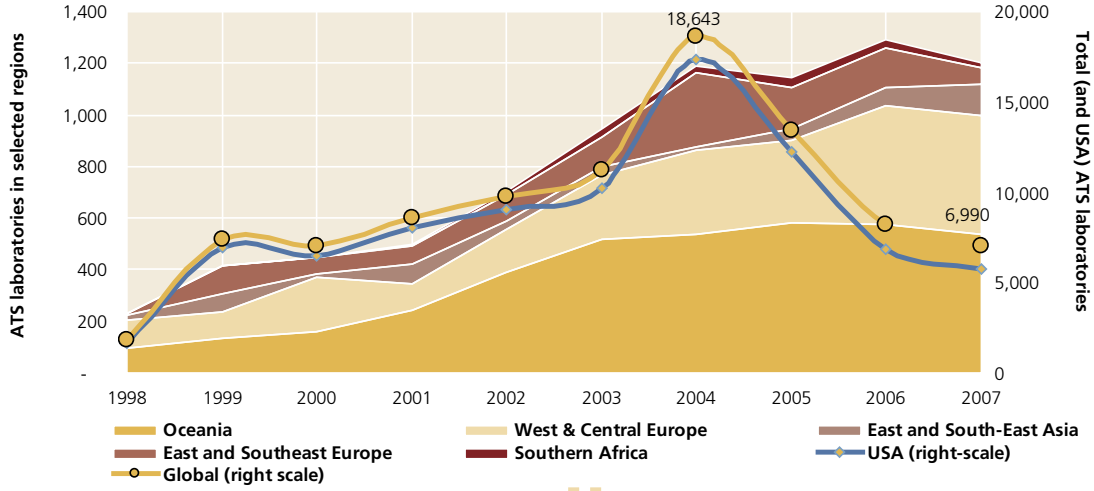
Amphetamine and ecstasy (MDMA) operations tend to be fewer in numbers, but have more sophisticated operations. They require more specialized equipment, precursor chemicals and more sophisticated skills. Amphetamine operations are reported from all of Europe, with the notable exception of the Czech Republic and neighbouring countries.[8] Ecstasy-group manufacture appears relatively stable, with a significant albeit declining proportion of the world's manufacture continuing to occur in Europe (West and Central subregions). Outside Europe, significant manufacture of ecstasy now occurs in North America, Oceania, and East and South-East Asia, as operations have shifted closer to those consumer markets.

USA laboratory count drops; driving global decline

The majority of global ATS laboratories are methamphetamine laboratories reported from North America.

Fig. 69: Number of reported ATS laboratory incidents (all sizes), by notable region, 1998-2007

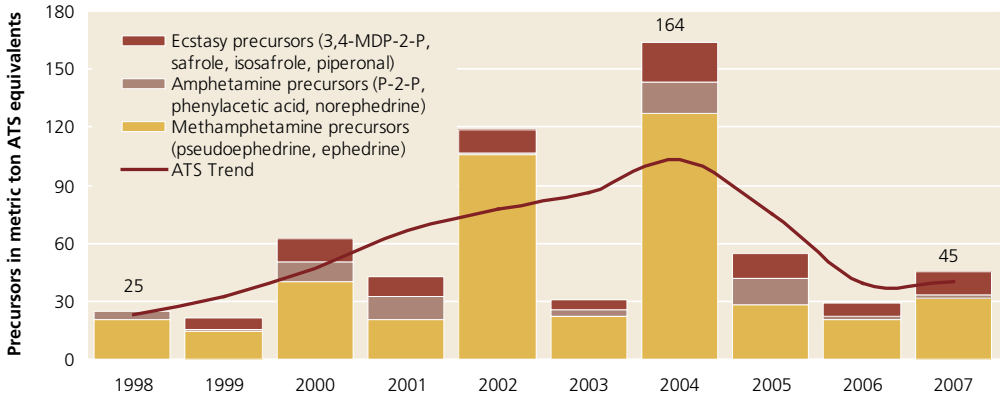
Source: UNODC, Annual Reports Questionnaire Data / DELTA.



8 One notable exception to this is methamphetamine *(Pervitin)* manufacture located in the Czech Republic and Slovakia, and to a lesser degree in neighbouring countries.

Fig. 70: Reported seizures of ATS precursors, expressed in metric ton ATS equivalents, 1998-2007

Source: UNODC calculations based on INCB data and conversion factors. (INCB, *Precursors and chemicals frequently used in the illicit manufacture of narcotic drugs and psychotropic substances, 2008* (March 2009, and previous years) and UNODC, Annual Reports Questionnaire Data / DELTA).



Despite the declining incidents, US laboratories still amount to 82% of the total reported in 2007. The count of laboratories alone does not provide accurate information on the size of manufacturing given that the scale of operation may differ between laboratories.[9]

The most commonly used ATS chemical precursors fall under international control, and their seizures–reported to the International Narcotics Control Board (INCB) ααcan provide some limited indications about manufacturing trends. Seizures of ATS-related precursor chemicals under international control were 45 mt in 2007,[10] which is an increase from 2006, but still a low level in a 10-year perspective.[11] Global seizures of ATS precursors in 2007 included:

- Amphetamines-group
  - · Methamphetamine
    - 25.3 mt of pseudoephedrine and 22.1 mt of ephedrine, sufficient to manufacture some 31.7mt of methamphetamine.
  - · Amphetamine
    - 1.2 mt norephedrine, sufficient to manufacture 770 kg of amphetamine;
    - 834 litres (l) of P-2-P,[12] sufficient to manufacture 417 kg of amphetamine; and
    - small amounts (159 kg) of phenylacetic acid,[13] sufficient to manufac ture some 40 kg of amphetamine.
- Ecstasy-group
  - · MDMA (and its analogues)
    - 45,986 l of safrole, sufficient to manufacture 9.7 mt of MDMA;
    - 2,297 l of 3,4-MDP-2-P[14], sufficient to manufacture 1.8 mt of MDMA;
    - 2 mt of piperonal which could be converted into 760 kg of MDMA; and
    - 225 l of isosafrole used in the manufacture of MDMA.

ATS producers adapt to evade law enforcement

There are signs that criminal organizations are adapting their manufacturing operations to avoid control by: 1) utilizing precursor chemicals not under international control; 2) moving manufacturing operations to more vulnerable locations; and 3) shifting precursor chemicals and drug trafficking routes to new locations to avoid detection.[15]

Evidence points to increased frequency of manufacturing ATS using uncontrolled precursors, most notably tableted pharmaceutical preparations[16] containing

9 As yet, there are no internationally accepted forensic reporting standards for clandestine laboratory operations, their chemical precursors, synthesis routes, drugs produced, and manufacture capacity (such as frequency of cycle, amount of output, and purity levels), thus limiting the overall analytical value of simple counts of laboratory incidents.

10 Expressed in ATS drug weight equivalents.

11 International Narcotics Control Board (2009), *Precursors and chemicals frequently used in the illicit manufacture of narcotic drugs and psychotropic substances*, 2008. (United Nations publication Sales No. E.09.XI.4) and prior years.

12 P-2-P (1-phenyl-2-propanone) also known as benzyl methyl ketone (BMK), is typically used in the manufacture of amphetamine commonly in Europe but can be also used for the manufacture of methamphetamine, a process more commonly seen in North America and to a lesser degree in Oceania.

13 Phenylacetic acid is used in illicit manufacture to synthesize the amphetamines-group precursor P-2-P and is therefore a 'pre-precursor.'

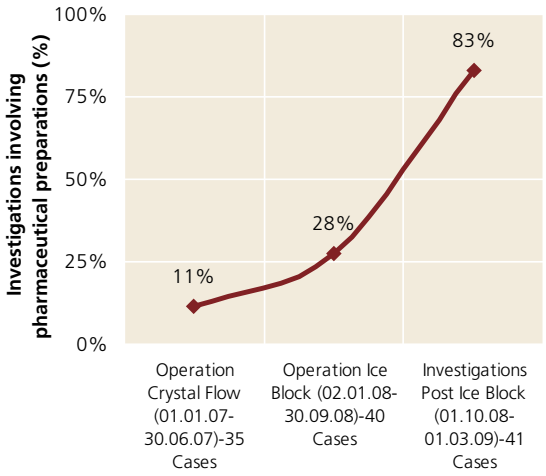
14 Also known as PMK (piperonyl methyl ketone).

15 *Amphetamines and Ecstasy: 2008 Global ATS Assessment* (United Nations publication, Sales No. E.08.XI.12).

16 Pharmaceutical preparations are drugs intended for human or veteri-

Fig. 71: Proportion of methamphetamine backtrack investigations involving pharmaceutical preparations as the chemical precursors for methamphetamine

Source: International Narcotics Control Board, *Trafficking in Pharmaceutical Preparations for the Illicit Manufacture of ATS*, presented at the 52nd Commission on Narcotic Drugs (March 17, 2009, Vienna).



pseudo/ephedrine[17] and P-2-P based processes in the manufacture of methamphetamine.[18] Tableted pharmaceutical preparations containing pseudo/ephedrine do not fall under the same international controls as bulk chemicals containing the identical chemicals, and therefore are more easily accessible.[19]

Besides benzaldehyde, a growing number of other emerging substitute precursor chemicals have been recently identified related to methamphetamine[20] synthesis including: α-phenylacetoacetonitrile (converts easily into P-2-P), and methyl phenylacetate, ethyl phenylacetate, amyl phenylacetate and isobutyl phenylacetate (which can all be converted into phenylacetic acid).

nary use, presented in their finished dosage form (for example, pills and tablets). Over-the-counter cold medicines in pill form or bulk precursors tableted into pill form would be classified as pharmaceutical preparations and are increasingly used in clandestine manufacture.

17 The term pseudo/ephedrine refers to both or either ephedrine or pseudoephedrine.

18 International Narcotics Control Board, *Trafficking in Pharmaceutical Preparations for the Illicit Manufacture of ATS*, presented at the 52nd Commission on Narcotic Drugs (March 17, 2009, Vienna).

19 In January 2009, Mexican authorities reportedly seized more than 8 million pseudoephedrine tablets (equivalent to 3 mt) aboard a ship which embarked from South Korea. (Guadalajara Reporter, *Police seize eight million illegal pills in Manzanillo*, 31 January, 2009.)

20 Amphetamines-group substances synthesized via P-2-P can result in either amphetamine or methamphetamine, but outside of Europe they more commonly result in methamphetamine.

ATS manufacture is rapidly spreading to vulnerable locations

As awareness, restrictions and enforcement against ATS manufacture increase in known problem areas, manufacture has expanded into vulnerable nearby countries. For example, from the USA manufacture shifted south to Mexico. As Mexico responded with strong countermethamphetamine initiatives manufacturing activities moved south to Latin America, including Argentina, Guatemala, Honduras, and Peru. Similar shifts may also be occurring in South Asia where India and Sri Lanka reported their first operational methamphetamine laboratories in 2008, and reported seized manufacturing equipment and chemicals in 2007.[21]

Trafficking routes are increasingly shifting into places that lack the stability, enforcement and forensics infrastructure to detect movement of both precursor chemicals and finished products. [22]

Methamphetamine manufacture shifts rapidly

North America, which accounts for most of the reported methamphetamine operations globally, saw a decline in 2007 (17%). The USA accounts for 82% of the total number of methamphetamine laboratories seized in 2007, a figure which has been in decline since nationwide pharmaceutical precursor controls were enacted in 2005.[23] However, preliminary reports for 2008[24] suggest that manufacture may be rebounding in the USA, as illustrated by increases in US clandestine laboratory incidents and increased "smurfing" activity.[25]

The number of laboratories reported by Mexico and Canada remains comparatively small, although the size of the laboratories may on average be larger.[26] There is

21 UNODC, Global SMART Update 2009, Volume 1 (March). Since 2003 India has reported several attempts at methamphetamine-related manufacture, none of which came to fruition.

22 *Amphetamines and Ecstasy: 2008 Global ATS Assessment* (United Nations publication, Sales No. E.08.XI.12).

23 Incidents are defined to include all counts of various types of labs (for example, extraction, manufacturing, cutting and packaging), chemical dumpsites, and drug processing chemical and glassware seizures.

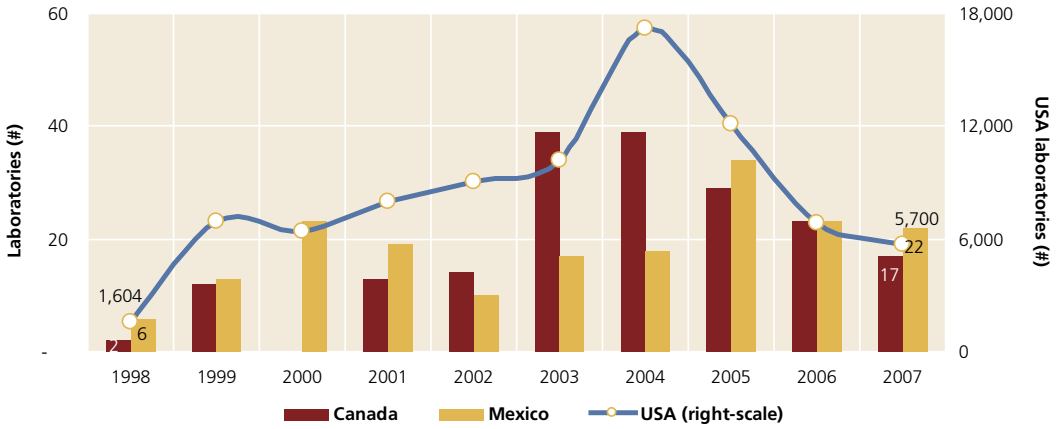
24 US Department of Justice (2008). *National Methamphetamine Threat Assessment 2009* (National Drug Intelligence Center, Product No. 2008-Q0317-006). Johnstown, PA.

25 Smurfing–unique to methamphetamine manufacture–is a term used to describe the emergence of groups who shop multiple pharmacies making many small purchases of pharmaceutical precursor chemicals, thereby avoiding sales restrictions and law enforcement attention. This phenomenon, also known as pill or pharmacy shopping, or pseudo-running, and has occurred in other places where over-the-counter pharmaceuticals used in the manufacture in methamphetamine have become restricted (for example, Australia and New Zealand).

26 The USA reported 11 large to industrial-sized laboratories in 2007, while Mexico and Canada reported 22 and 17 laboratories, respectively. (US Department of Justice (2008). *National Methamphetamine Threat Assessment 2009* (National Drug Intelligence Center, Product No. 2008-Q0317-006). Johnstown, PA., and previous years. None of these were identified as small scale laboratories in the ARQ.

Fig. 72: North America methamphetamine laboratories reported (all sizes), 1998-2007

Source: UNODC, Annual Reports Questionnaire Data / DELTA



evidence that Canada-based Asian organized crime groups and outlaw motorcycle gangs have significantly increased the amount of methamphetamine they manufacture and export, for the US market, but also for Oceania and East and South-East Asia.[27]

Many operations in Mexico were disrupted in 2007 and as a result, Mexican-based drug cartels have spread their risks by diversifying manufacturing methods[28] and moved to other countries in Latin America or back to the USA.[29]

Methamphetamine manufacture is increasing in other regions

Methamphetamine manufacture has also grown considerably outside of the Americas from 46 laboratories reported a decade ago to 700 in 2007,[30] with the largest increase in East and South-East Asia, Oceania, Europe, and Southern Africa. Laboratory operations in East and South-East Asia are often significant industrial-sized operations, which have grown in sophistication over the last few years.[31] While manufacture has been reported in many countries, operations in China, Myanmar and the Philippines account for most of the production.[32]

China accounts for the majority of reported methamphetamine laboratories seized in East and South-East Asia. Seventy-five predominately methamphetamine laboratories were reported in 2007, an annual increase of nearly 50% since 2005. The sophistication and size of these operations are significant, as seen when authorities in Guangdong seized one of the largest methamphetamine laboratories ever discovered, along with 1.7 mt of liquefied methamphetamine.[33] The increase in Ketamine[34] manufacture can be seen clearly in the number of clandestine laboratories reported (from 17 in 2006 to 44 in 2007) as demand for the drug increases throughout the region, particularly in Hong Kong, China.

The source for much of the tableted form of methamphetamine ('yaba') found in East and South-East Asia occurs within Myanmar[35], as precursors enter from porous borders from India, China and Thailand.

27 US Department of Justice. (2008). *National Methamphetamine Threat Assessment 2009* (National Drug Intelligence Center, Product No. 2008-Q0317-006). Johnstown, PA; Australian Crime Commission (2009). Illicit Drug Data Report 2006–07 (Revised March 2009); Recent Illicit Synthetic Drug Smuggling Situation in Japan. Presented by the Customs and Tariff Bureau, Ministry of Finance, Japan at the 18th Anti-Drug Liaison Officials' Meeting for International Cooperation (ADLOMICO), (September, 2008, Busan, Republic of Korea).

28 US Department of Justice. (2008). *Changes in Drug Production, Trafficking, and Abuse, Second Half-Year CY2007* (National Drug Intelligence Center). Johnstown, PA; US Department of Justice. (2008). *Emerging Threat Report, Alternative chemicals sought to produce methamphetamine precursors* (Drug Enforcement Administration, DEA 08035, October 2008).

29 US Department of Justice (2008). *National Methamphetamine Threat Assessment 2009* (National Drug Intelligence Center, Product No. 2008-Q0317-006). Johnstown, PA.

30 The Republic of Moldova, which reports on average 80 methamphetamine laboratories annually (2004-2006), failed to report any drug manufacturing to UNODC in 2007.

31 *Amphetamines and Ecstasy: 2008 Global ATS Assessment* (United Nations publication, Sales No. E.08.XI.12).

32 Information based on 92 mentions of the origin of seized methamphetamines. Mentions of Japan as a source country reflects the difficulty in identifying source countries and transiting countries. Japan has reported no clandestine manufacture to UNODC.

33 UNODC, Global SMART Update 2009, Volume 1 (March).

34 Ketamine is a licit pharmaceutical illicitly used as a hallucinogen. While it is not an ATS it is increasingly encountered in ATS markets, either in connection with the "club-drug" scene, or found knowingly or unknowingly as an active ingredient in what is sold on illicit markets as 'ecstasy'. Ketamine is not currently under international control.

35 There are indications that high potency crystalline methamphetamine is also being manufactured there.

Fig. 73: Sources of seized East and South East Asia methamphetamine as mentioned by Member States, 2002-2007

Source: UNODC, Annual Reports Questionnaire Data / DELTA.

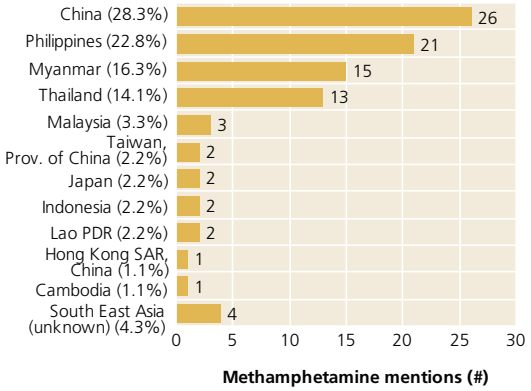
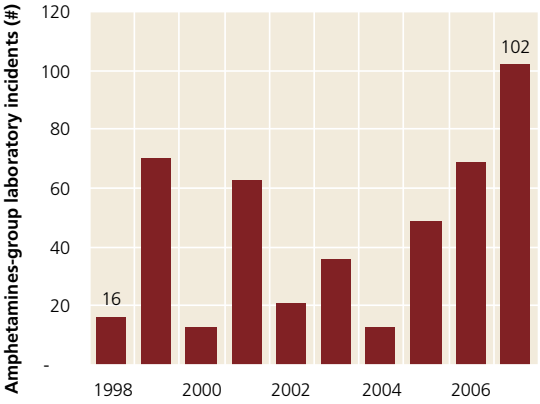


Fig. 74: Number of East and South East Asia amphetamines-group laboratories (all sizes), 1998-2007

Source: UNODC, Annual Reports Questionnaire Data.



Manufacture is allegedly controlled by the United Wa State Army (UWSA), the Shan State Army-South (SSA-S)[36] and groups in the Kokang Autonomous Region, and are increasingly trafficked throughout the Greater Mekong Subregion (GMS).[37] In 2007, only five tableting facilities were reported. However, reports from neighbouring countries suggest that the number of clandestine manufacturing operations is significantly higher[38] than seizures would suggest.

The Philippines remains a significant source of high potency crystalline methamphetamine *('shabu')* used both domestically and exported to locations in East and South East Asia and Oceania. Manufacture often occurs in industrial-sized laboratories operated by transnational organized crime with most chemists being foreign nationals.[39] In 2007, a notable increase in the seizure of methamphetamine-related manufacturing facilities was reported with nine significant laboratories (and an additional 13 chemical warehouses) seized, increasing in 2008 to 10 laboratories, marking the third consecutive year of increases.[40]

Transnational criminal organizations shift operations to vulnerable areas; size and sophistication increase

Subregional shifts in manufacture to new areas within the Greater Mekong Subregion and beyond are occurring as criminal syndicates increasingly exploit new vulnerable areas in which to synthesize methamphetamine undetected. For example, significant methamphetamine-related manufacture was first reported in Cambodia in 2007 and Viet Nam in 2005.[41]

Indonesia and Malaysia have reported increasing incidents, size and sophistication of ATS manufacture. Operations discovered there are some of the world's largest and most sophisticated industrial-sized operations to date, both requiring an unprecedented level of logistical support to fully operate.[42] In 2007/08 Indonesian authorities reported ketamine findings at several clandestine methamphetamine laboratories, raising the possibility that local manufacture of ketamine may also occur as its use increases.[43]

36 UNODC Regional Crime Centre for Asia and the Pacific. Patterns and Trends of amphetamine-type stimulants (ATS) and other drugs abused in East Asia and the Pacific 2005. (Bangkok, June 2006); UNODC. Amphetamines and Ecstasy: 2008 Global ATS Assessment (United Nations publication, Sales No. E.08.XI.12); US Department of State, Bureau for International Narcotics and Law Enforcement Affairs, International Narcotics Control Strategy Report (Washington D.C., 2009).

37 A region encompassing Cambodia, Lao PDR, Myanmar, Thailand, Viet Nam, and bordering provinces of south China.

38 Drug situation 1-15 December 2006, presented to UNODC, Thailand Office of the Narcotics Control Board (ONCB).

39 Philippine Country Report, Current Situation and Recent Trends in ATS Manufacture and Precursor Diversion. Joint Meeting of 4th Asian Collaborative Group on Local Precursor Control (ACoG) and 4th International Forum on Control of Precursors for ATS (IFCP) 12-15 February 2008 Tokyo, Japan.

40 Country report by the Philippines (UNODC/HONLAP/2009/32/CRP.6). Thirty-second Meeting of Heads of National Drug Law Enforcement Agencies, Asia and the Pacific (February 2009, Bangkok).

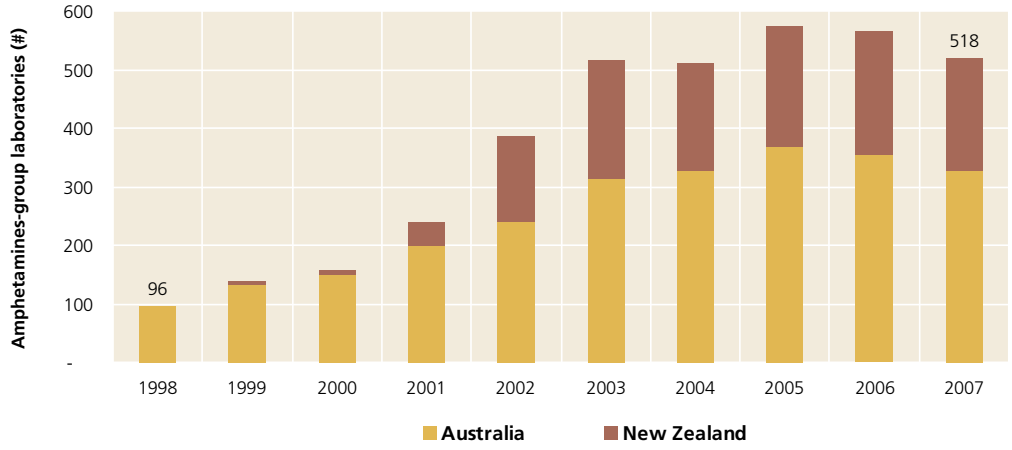
41 *Amphetamines and Ecstasy: 2008 Global ATS Assessment* (United Nations publication, Sales No. E.08.XI.12).

42 At the Kulim laboratory—an operation estimated to have a theoretical production cycle of 1.4 mt used P-2-P believed to have been manufactured from α-phenylacetoacetonitrile, a chemical not under international control, to manufacture methamphetamine. The National Project Workplan for National Narcotics Board Indonesia: *Improving ATS data and information systems*, presented at the Regional ATS forum (August 2007).

43 Country report by the Indonesia (UNODC/HONLAP/2009/32/CRP.8). Thirty-second Meeting of Heads of National Drug Law Enforcement Agencies, Asia and the Pacific (February 2009, Bangkok).

Fig. 75: Oceania amphetamines-group laboratories seized (all sizes), 1998-2007

Source: UNODC, Annual Reports Questionnaire Data / DELTA.



Oceania amphetamines-group laboratory seizures stable at high levels

Amphetamines-group laboratory seizures in Oceania[44] have remained at high levels for the past several years. However, in 2007, there were signs of a moderate decrease. Australia reported a total of 328 (an 8% decline from the previous year) amphetamines-group and combination ATS-type operations (excluding MDMA only operations) and New Zealand reported 190 amphetamines-group laboratories (10% decrease), each predominantly methamphetamine-related.[45]

Significant methamphetamine precursors continue to be intercepted by customs and law enforcement in both countries. In Australia, large quantities of pseudo/ephedrine continue to be imported via air cargo.[46] In July 2008, Australian authorities intercepted a single shipment of 850 kg of pseudoephedrine trafficked from Thailand.[47] Increases were also noted in P-2-P based precursors.

New Zealand estimates that as many as 10 million pharmaceutical precursors tablets containing pseudoephedrine are trafficked from China to New Zealand annually. The authorities estimate that it could be used to synthesize 630 kg of methamphetamine.[48] However, most clandestine operations detected appear to be using domestically diverted pharmaceutical precursors.

There is still a risk that manufacturing could become established in other countries in Oceania, as seven of the countries are not yet parties to the *1988 United Nations Convention Against Illicit Traffic in Narcotic Drugs and Psychotropic Substances*.[49]

Methamphetamine manufacture in Europe is limited to Central and Eastern Europe

In Europe, methamphetamine manufacture is largely limited to a number of countries in Central Europe and East Europe (405 cases in 2007). Compared to 2006, a 15% decline was noted in total laboratories reported to UNODC. However, inconsistencies in reporting makes it difficult to compare the figures.[50] The majority of operations are small scale and the main producing country is the Czech Republic (96%). In 2007, Poland and Portugal also reported methamphetamine manufacture.[51]

44 Only Australia and New Zealand provide regular reporting of their drug situations to UNODC.

45 Note these figures include extraction laboratories/operations for the manufacture of methamphetamine. Australian Crime Commission (2009). *Illicit Drug Data Report 2006–07* (Revised March 2009). The figures from Australia include 249 amphetamines-group only laboratories and 79 "other" clandestine laboratories, but exclude MDMA only laboratories. The "other" category has historically included cases/ laboratories containing equipment and chemicals associated with making unknown ATS, and were therefore included in the broader group. See, Australian Crime Commission (2007). *Illicit Drug Data Report 2004–05*, and previous years.

46 Australian Crime Commission (2009). *Illicit Drug Data Report 2006–07* (Revised March 2009).

47 UNODC, Global SMART Update 2009, Volume 1 (March).

48 National Drug Intelligence Bureau, *Illicit Drug Assessment 2008*. Wellington; *National Drug Intelligence Bureau, Precursors and Chemicals used for Methamphetamine Manufacture in New Zealand*. July 2008, Wellington.

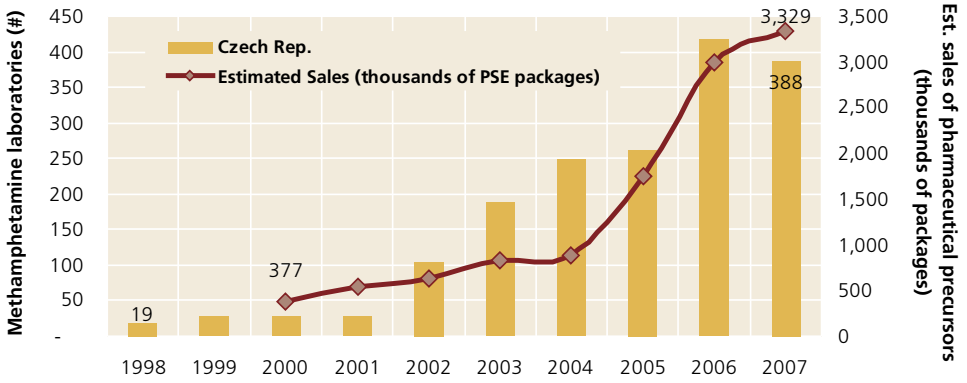
49 These include Kiribati, the Marshall Islands, Nauru, Palau, Papua New Guinea, Solomon Islands and Tuvalu.

50 For example, the Republic of Moldova averaged 80 laboratories per year between 2004-06, but did not provide an ARQ in 2007. The Russian Federation lists methamphetamine as an end product manufactured domestically, however only seizure of amphetamine laboratories were reported to UNODC. There are reports of widespread small scale manufacture in the Ukraine, but laboratories (7) were last officially reported in 1998.

51 *Amphetamine-type stimulants in the European Union 1998-2007*:

Fig. 76: Czech Republic: illicit methamphetamine laboratories and licit tableted pharmaceutical precursors sales, 1998-2007

Source: UNODC, Annual Reports Questionnaire Data / DELTA; Havlíček, S. (2008). *Pharmacies and Clandestine Production of Methamphetamine in the Czech Republic*, presented at the 2008 Global Conference on Methamphetamine: Science, Strategy, and Response (September 2008, Prague). Czech Chamber of Pharmacists.



The number of Czech Republic methamphetamine *(Pervitin)* laboratories reported in 2007 (388) suggests that a possible stabilization–at a high level–may be occurring. In this country, the majority of methamphetamine synthesis utilizes tableted pharmaceutical preparations. This shows in the estimated 82% of domestic pharmaceutical sales which were used for illicit manufacture.[52] New 2009 restrictions limiting the sale of pharmaceutical preparations containing pseudoephedrine may impact the methamphetamine production in the Czech Republic.

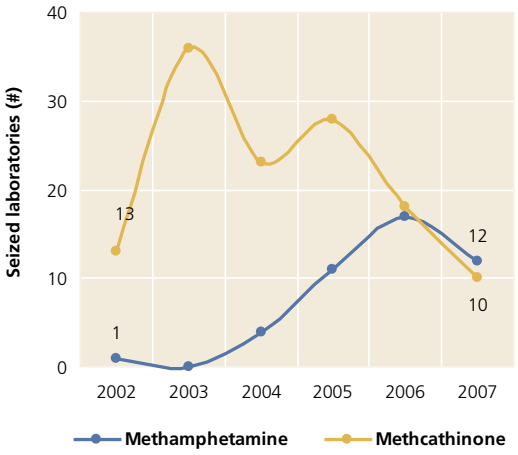
There are emerging reports of increased methamphetamine manufacture throughout the Baltic countries. Poland, known as a source of amphetamine, reported its first methamphetamine laboratory in 2007. There are also reports of manufacturing of considerable scale in Lithuania.

In South Africa, methamphetamine laboratories outpace methcathinone

South Africa dismantled 12 clandestine methamphetamine *('tik')* laboratories in 2007, a decline from 2006 (17). However, for the first time the number of methamphetamine laboratories seized outpaced those of methcathinone ('cat', 10 reported in 2007).[53] While declining, South Africa legally imports significant amounts of licit ephedrine and pseudoephedrine, however, little is seized in relation to illicit activities.[54] In an effort to stem domestic diversion into illicit drug manufacture, the Government in April 2008 amended its Medicines and Related Substances Act (1965) to include pharmaceutical preparations containing pseudo/ephedrine.

Fig. 77: South Africa: seized methamphetamine and methcathinone laboratories (all sizes), 2002-2007

Source: UNODC, Annual Reports Questionnaire Data / DELTA.



Europol contribution to the Expert Consultations for the UNGASS assessment. Europol (The Hague, July 2007).

52 Havlíček, S. (2008). *Pharmacies and Clandestine Production of Methamphetamine in the Czech Republic*, presented at the 2008 Global Conference on Methamphetamine: Science, Strategy, and Response (September 2008, Prague). Czech Chamber of Pharmacists.

53 Methcathinone manufacture represents a group of ATS grouped under 'other synthetic stimulants.' These 10 laboratories represent 39% of the total for that category (26) reported in 2007.

54 International Narcotics Control Board (2009). *Precursors and chemicals frequently used in the illicit manufacture of narcotic drugs and psychotropic substances*, 2008. (United Nations publication Sales No. E.09.XI.4); US Department of State, Bureau for International Narcotics and Law Enforcement Affairs, *International Narcotics Control Strategy Report Volume I Drug and Chemical Control* (Washington D.C., 2009)

Number of amphetamine laboratories decline; locations may be shifting

After methamphetamine, the largest group of ATS manufacture is for combined amphetamine substances.[55] This group of laboratories represents nearly a third of the total, with 453 reported in 2007. Operations that manufacture only amphetamine declined by 23% to 118 in 2007. Most of these operations are located in Europe (81%) followed by the Americas (17%).

Over the last decade (1998-2007) Europe has reported the dismantling of 971 clandestine amphetamine laboratories (72% of the global total). The largest numbers of dismantled operations were reported by the Russian Federation (61% of the European total), Poland (13%), the Netherlands (10%), Germany (4%), the UK (3%), Belgium and Bulgaria (2% each). For 2007, the largest number of European operations were in the Russian Federation (62),[56] followed by Poland (13), Belgium (7) and Germany and the Netherlands (5 each).

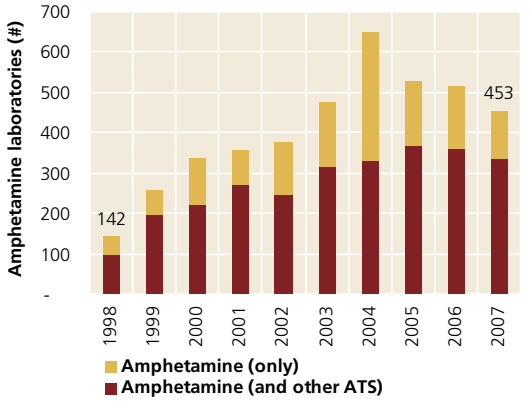
The low figures reported by Belgium, Netherlands and Poland may not be indicative of manufacture capacity. Member States in the ARQ often mention these countries as the source of seized amphetamine.[57]

P-2-P is the most common precursor chemical used in the illicit manufacture of amphetamine throughout Europe, where it accounted for 93% of the global seizures reported to the INCB in 2007.[58] However, total P-2-P seized in Europe in 2007 amounted to only 773 litres (l), the lowest levels in the new millennium. Only four countries, Germany (243 l), Poland (241 l), the Russian Federation (191 l) and Estonia (51 l), reported seizures. Small amounts of phenylacetic acid (used to make P-2-P) were seized in 2007 by Bulgaria (50 kg) and Lithuania (106 kg).

Organized crime operating in the Netherlands and to a lesser extent Belgium still dominate the major manufacture of synthetic drugs. Greater sophistication of operations has been noted by Europol, as increased laboratory sizes, higher capacity tableting machinery and segregation of the production cycle to safeguard operations become more commonplace.[59]

Fig. 78: Global amphetamine laboratories reported to UNODC (all sizes), 1998-2007

Source: UNODC, Annual Reports Questionnaire Data / DELTA.



Bulgaria and to a lesser degree Turkey are believed to be the sources for counterfeit pharmaceuticals sold as Captagon–believed to contain amphetamine–increasingly reported throughout the Near and Middle East. There are several indications that undetected amphetamine manufacture may already be occurring in the Near and Middle East.[60]

Significant ecstasy manufacture in Europe, North America, Oceania, and East and South-East Asia

Ecstasy-group laboratories totalled 72 in 2007, which is higher than 2006, but similar to levels seen in recent years. Manufacture in 2007 was reported in just eight countries: Australia (19), Indonesia (16), Canada (14), USA (12), Netherlands (8), France (1), Mexico (1) and Spain (1). Operationally, ecstasy manufacture (predominately MDMA) is more demanding than the manufacture of new ATS. It requires increased skills, specialized equipment, and precursor chemicals. Nearly all MDMA operations are large enough to be economically profitable, thus the low number of laboratories may not be a sign of low production.

The most significant development in ecstasy-group manufacture has been the shift of operations from West and Central Europe to locations closer to consumers around the world. 2002/03 marked the period when greater numbers of laboratories were seized in regions

55 Many countries do not have the forensic capabilities to differentiate between various types of ATS operations. These counts include amphetamine, non-specified amphetamine and those laboratories that manufactured multiple products, but exclude clearly identified laboratories of methamphetamine, ecstasy (MDMA), and other synthetic (fir example methcathinone) laboratories.

56 Note figures may also include methamphetamine operations.

57 Information based on 321 mentions on the origin of amphetamine seizures between 2002 and 2007.

58 International Narcotics Control Board (2009). *Precursors and chemicals frequently used in the illicit manufacture of narcotic drugs and psychotropic substances*, 2008. (United Nations publication Sales No. E.09.XI.4)

59 Europol, *Amphetamine-type Stimulants in the European Union 1998-2007*. Europol contribution to the Expert Consultations for the UNGASS assessment (The Hague, July 2007).

60 For example, Lebanese authorities in 2007 successfully intercepted laboratory equipment and precursor chemicals for *Captagon* manufacture smuggled into the country by Bulgarian nationals; in 2007, the INCB reported that 75% of licit global trade in the amphetamine precursor P-2-P was destined for two countries located in the Near and Middle East allowing for a localized source for diversion.

Fig. 79: Global ecstasy-group laboratories reported to UNODC (all sizes), 1998-2007

Source: UNODC, Annual Reports Questionnaire Data / DELTA.

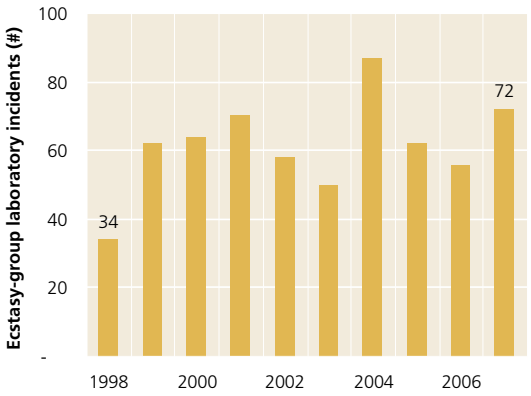
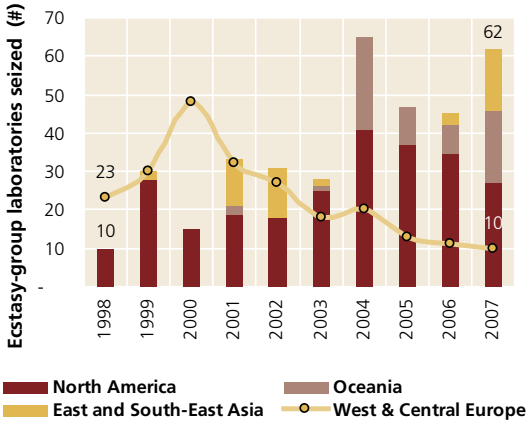


Fig. 80: Regional ecstasy-group laboratories reported to UNODC, 1998-2007

Source: UNODC, Annual Reports Questionnaire Data / DELTA.



outside Europe, most notably North America, Oceania, and East and South-East Asia. Several instances of European-based criminal expertise (for example, chemists) were also observed in these regions.[61]

The Netherlands was mentioned most frequently as the source country for seized ecstasy (178 mentions or 38.5%), followed by Belgium (9.5%), Germany (5.2%), and the UK (3.2%). Europe overall accounted for 86% of all mentions, in spite of significant shifts in manufacture to regions outside Europe.

Precursors for ecstasy-group substances include safrole (and safrole-rich oils), isosafrole, piperonal and 3,4-MDP-2-P, which are all under international control. In 2007, only one country, Thailand, reported significant safrole seizures. Australia (1,907 l), Canada (370 l), and the Netherlands (20 l) were the only countries reporting 3,4-MDP-2-P seizures in 2007. The total of 2,297 l is the lowest level in the new millennium. Mexico reported a single seizure of 2 mt of piperonal, accounting for nearly all seized in 2007.[62] While many of these seizures point to locations where MDMA manufacture is likely significant, their amounts clearly do not reflect the requisite chemicals needed to produce the amount of ecstasy consumed annually.

In Australia, there is continued evidence of notable domestic manufacture.[63] Canada has grown to be the most important producer of MDMA for North America, and since 2006, all ecstasy laboratories reported have been large capacity facilities operated principally by Asian organized crime groups.[64] The number of laboratories in the USA appears comparable to other producers, however, US operations tend to be smaller in nature, providing limited amounts for domestic consumption. On the other hand operations in West and Central Europe tend to be larger and more sophisticated, and produce higher quality products trafficked around the world. For example, the Netherlands seized two of the largest MDMA laboratories ever in 2007. In 2008, Brazil's Federal Police dismantled the country's first clandestine MDMA laboratory in the southern state of Paraná, again illustrating how ATS manufacture is able to shift closer to its consumers.[65]

61 Europol (2008). *OCTA 2008, EU Organized Crime Threat Assessment* (The Hague 2008).

62 Mexico reported an MDMA laboratory in 2007, the first such report since 2002.

63 Australian Crime Commission (2009). Illicit Drug Data Report 2006–07 (Revised March 2009).

64 US Department of Justice. (2008). National Drug Threat Assessment 2009 (National Drug Intelligence Center, Product No. 2008-Q0317-005). Johnstown, PA.

65 Brazil Federal Police, *Relatório annual de atividades – 2008*. Divisão de Controle de Produtos Químicos. Note, the majority of MDMA consumed in Brazil is believed to originate in Europe.

1.4.3 Trafficking

Global ATS seizures increase in 2007, surpassing previous records

Global seizures of amphetamine-type stimulants (ATS)[1] have continued to increase, totalling nearly 52 metric tons (mt) in 2007, surpassing their 2000 peak by nearly 3 mt.[2] The proportion of Member States that reported ATS seizures was 65%, the highest level recorded. The countries also reported an increase in average weight seized, from 492 kg in 2000 to 555 kg in 2007.[3]

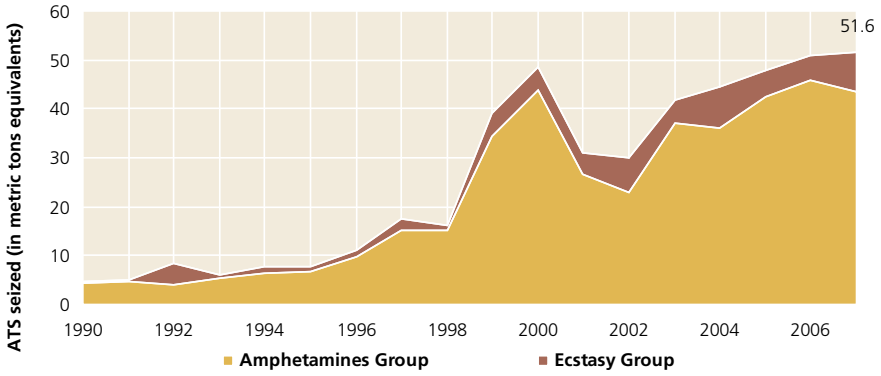
Trafficking in ATS substances is most commonly intra-regional – thus crossing fewer international borders – because manufacture typically occurs near the consumer market. This partially explains the relatively low levels of ATS seized compared to cocaine and heroin seizures. However, data suggests that interregional trafficking is increasing.[4] Moreover, the precursor chemicals from which ATS materials are manufactured continue to be trafficked throughout the world. They are often diverted from licit manufacture in South, East and South-East Asia.

Amphetamine continues to dominate global ATS seizures

The *amphetamines-group*[5] dominates ATS seizures, accounting for 85% of all seizures by volume. However, 2007 saw a dramatic jump in *ecstasy-group*[6] seizures (15% of all ATS seized), as significant increases were noted in several large markets. In 2006, amphetamine seizures were higher than methamphetamine. This trend continued in 2007, when amphetamine accounted for 46% of all ATS seized.

Fig. 81: Global seizures of amphetamine-type stimulants (ATS), 1990 - 2007

Source: UNODC, Annual Report Questionnaire Data/DELTA; UNODC Drug Information Network for Asia and the Pacific (DAINAP); Government reports; World Customs Organization (WCO), Customs and Drugs Report 2007 (Brussels, 2008) and previous years.



1 Amphetamine-type stimulants (ATS) are a group of substances comprised of synthetic stimulants including amphetamine, methamphetamine, methcathinone and ecstasy-group substances (MDMA and its analogues).

2 To standardize, seizures reported in kilograms, litres and dose/units/pills/tablets are transformed into kg equivalents: a dose of "ecstasy" was assumed to contain on average 100 mg of psychoactive ingredient (MDMA); a dose of amphetamine/methamphetamine was assumed to contain 30 mg of active ingredient; a litre was assumed to equal a kilogram. Until 1999 'other hallucinogens' were included in data for the ecstasy-group substances, but the proportion of ecstasy-group in the total exceeded 90% for most years.

3 It is important to note that drug and precursor seizure data are subject to change for a variety of reasons, such as new or late data being added or revisions in data already provided by Member States. All data reported in trafficking reflect the most up-to-date and accurate information available at the time of printing.

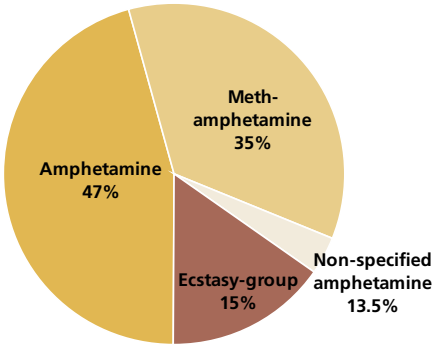
4 *Amphetamines and Ecstasy: 2008 Global ATS Assessment* (United Nations publication, Sales No. E.08.XI.12).

5 The *amphetamines-group* substances includes predominately methamphetamine and amphetamine, but also includes non-specified amphetamines-group (for example, tablets sold as Captagon, methcathinone, fenetylline, methylphenidate and others), however it excludes substances purportedly of the ecstasy-group of substances.

6 The *ecstasy-group* substances include predominately MDMA, with MDA and MDEA/MDE. However, limited forensic capacity by Member States often leads to confusion about the actual content of tablets believed to be "ecstasy" (MDMA).

Fig. 82: ATS seized, by substance type, 2007 (total: 51.6 mt)

Source: UNODC, Annual Report Questionnaire Data/DELTA; UNODC Drug Information Network for Asia and the Pacific (DAINAP); Government reports; World Customs Organization (WCO), *Customs and Drugs Report* 2007 (June 2008) and previous years.



While drug seizures vary dramatically from year to year, clear increases in the amount of amphetamine seized began around 2000, with large increases reported in 2005. These increases are due, in large part, to interceptions of a fake pharmaceutical marketed as Captagon (amphetamine) in the Near and Middle East.[7] Seizures of methamphetamine, until recently the main ATS seized in East and South-East Asia and North America, have declined somewhat since 2005, and remain at some 18 mt.

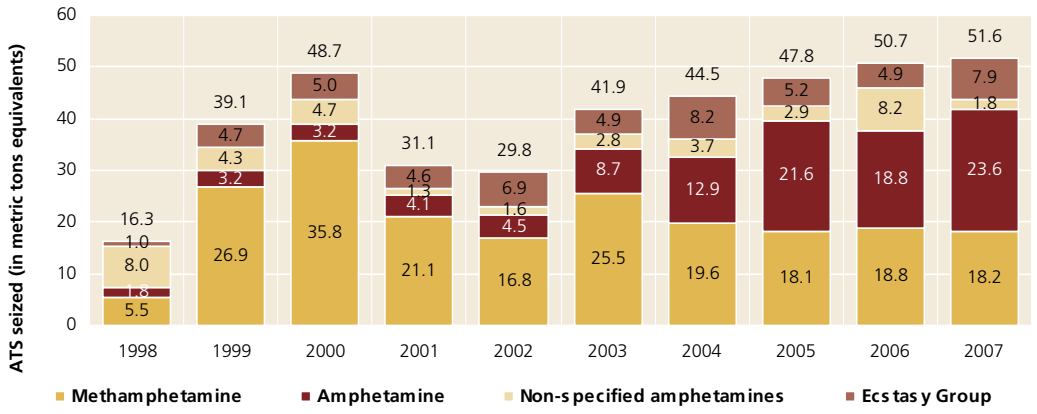
The majority of ATS seizures worldwide occur primarily in the four subregions with distinct patterns:

- Near and Middle East (29%)–primarily fake Captagon tablets likely containing amphetamine;
- East and South-East Asia (23%) –primarily methamphetamine;
- West and Central Europe (22%)–primarily amphetamine and ecstasy; and
- North America (18%)–primarily methamphetamine and ecstasy.

Each of these subregions is also a significant manufacturing area. The one exception is the Near and Middle East, where no clandestine manufacture has been reported. However, undetected amphetamine manufacture may be occurring in the subregion. This is because ATS are typically manufactured in the subregion in which they are consumed, and because of several indicators of manufacture in the subregion. For example, Lebanese authorities in 2007 intercepted laboratory equipment and precursor chemicals for Captagon manufacture; 75% of licit global trade in the Captagon precursor 1-phenyl-2-propanone (P-2-P)[8] in 2007 was destined for two countries in the Near and Middle East; and intelligence reports support the assertion that ongoing manufacturing has been occurring in the Syrian Arab Republic since at least 2006 (although no laboratories have been detected to date).[9]

Fig. 83: Global ATS seizures, by substance type, 1998-2007

Source: UNODC, Annual Report Questionnaire Data/DELTA; UNODC Drug Information Network for Asia and the Pacific (DAINAP); Government reports; World Customs Organization (WCO), *Customs and Drugs Report* 2007 (Brussels, 2008) and previous years



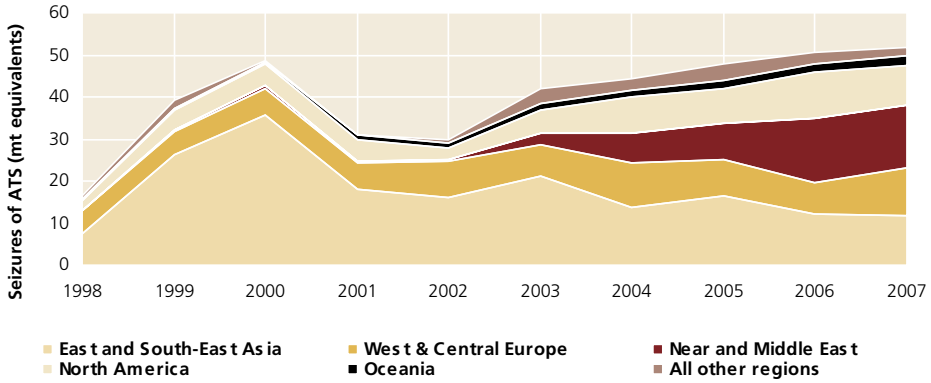
7 See special Captagon feature in this chapter.

8 Also know as benzyl methyl ketone (BMK).

9 Lebanon Drug Enforcement Central Bureau, presentation at the *Working Group Meeting on Captagon Smuggling to the Middle East Region*, (December 2008, Beirut); Turkish National Police, *Department Of Anti-Smuggling And Organized Crime* (KOM), Annual Report 2008. Ministry of the Interior (February 2009, Ankara) and previous years. International Narcotics Control Board (2009). *Precursors and chemicals frequently used in the illicit manufacture of narcotic drugs and psychotropic substances,* 2008. (United Nations publication Sales No. E.09.XI.4)

Fig. 84: Global ATS seizures, by subregion, 1998-2007

Source: UNODC, Annual Report Questionnaire Data/DELTA; UNODC Drug Information Network for Asia and the Pacific (DAINAP); Government reports; World Customs Organization (WCO), *Customs and Drugs Report 2007* (June 2008) and previous years.



Ten countries in five distinct subregional markets accounted for more than 80% of all ATS seized. The most significant ATS seizures are reported from Saudi Arabia (27% of all ATS), China and the USA (12% each), the Netherlands (10%), Canada, the United Kingdom,[10] Australia, Indonesia, Thailand and Myanmar, all with 5% or less.

Trafficking in amphetamines-group substances

Decline in seized amphetamines-group substances; the Near and Middle East leads in amphetamines-group seizures

Seizures of amphetamines-group substances (that is, amphetamine, methamphetamine and non-specified amphetamines) have increased considerably since the mid-1990s, and again beginning in 2002.

However 2007 saw a decline of about 2.5 mt over the prior year from decreases in the non-specified amphetamines group. The more recent increases have been driven primarily by amphetamine in the Near and Middle East, Europe and North America, while seizures reported from East and South-East Asia–while substantial–have been on the decline. In 2007, the Near and Middle East accounted for about a third of global seizures (43.2 mt total), followed by East/ South East Asia, West and Central Europe, and North America.

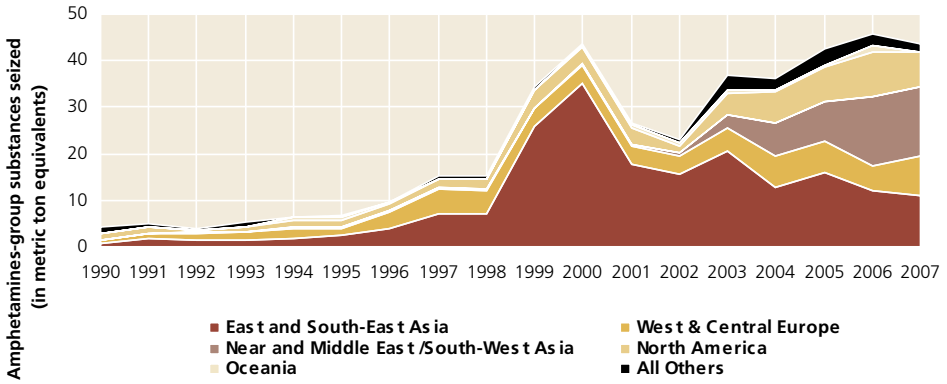
Trafficking in amphetamine

Trafficking in fake Captagon (amphetamine) in the Near and Middle East dominates global amphetamine seizures

The 23.6 metric tons of amphetamine seized in 2007

Fig. 85: Global seizures of the *amphetamines-group substances*, by region, 1990 - 2007

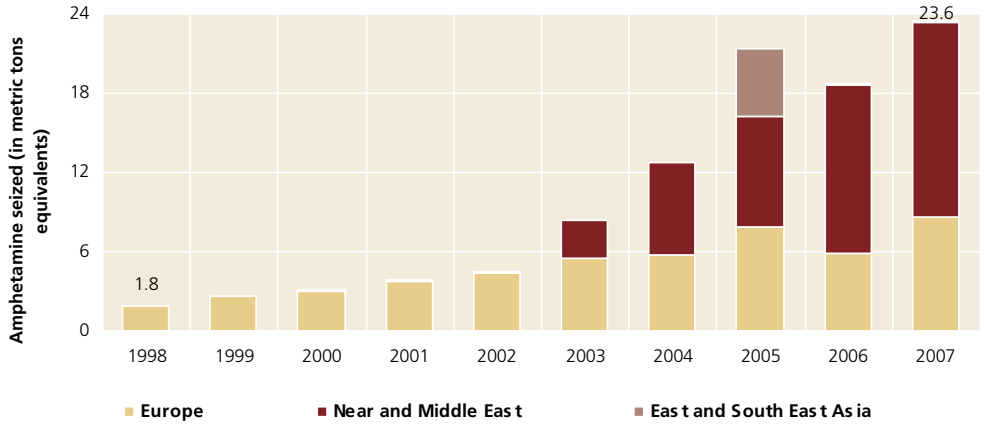
Source: UNODC, Annual Report Questionnaire Data/DELTA; UNODC Drug Information Network for Asia and the Pacific (DAINAP); Government reports; World Customs Organization (WCO), *Customs and Drugs Report* 2007 (Brussels, 2008) and previous years.



10 Figures for the UK include England, Wales, Scotland and Northern Ireland

Fig. 86: Global amphetamine seizures, by region, 1998-2007

Source: UNODC, Annual Report Questionnaire Data/DELTA; UNODC Drug Information Network for Asia and the Pacific (DAINAP); Government reports; World Customs Organization (WCO), *Customs and Drugs Report* 2007 (Brussels, 2008) and previous years.



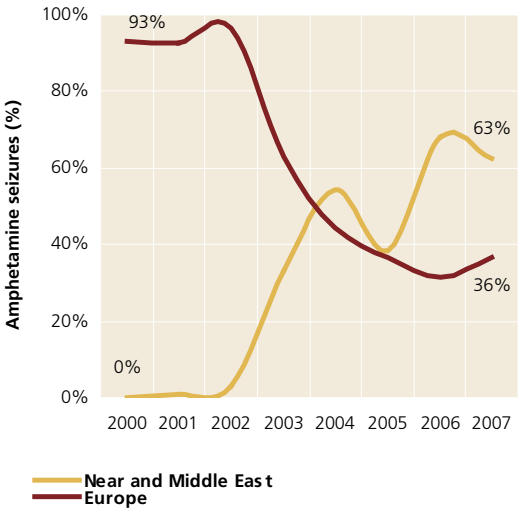
represents the highest level of seizures ever for this class of drug. The Near and Middle East accounted for nearly two thirds of all amphetamine seized, followed by Europe with just over a third. Saudi Arabia accounted for the vast majority. Notable seizures were also reported from the Syrian Arab Republic, Jordan and the United Arab Emirates (UAE). West and Central Europe accounted for 94% of all of Europe's seizures, led by the Netherlands, the United Kingdom and Germany.

Given the significant increases in the Near and Middle East, Europe's share of global seizures has declined, despite an increase in the absolute amounts seized in Europe between 2000 and 2007. European seizures accounted for 93% of all amphetamine seizures in 2000, compared to 36% in 2007.

The shifts in the Near and Middle East are concentrated in several key countries and are largely due to fake Captagon – an ATS product unique to the subregion. In 2007, Saudi Arabia seized a record 13.9 mt of fake Captagon, a weight near equivalent to all of the UK's amphetamines-group seizures since 2000.[11] It is likely that the reported weight of this significant seizure in Saudi Arabia represents bulk tablet weight, which includes adulterants and binders. Many of the seizures depart from the Syrian Arab Republic, travel by road via Jordan and arrive in Saudi Arabia. Several other countries in the subregion have reported dramatic increases in seizures of these tablets since 2004, including Jordan, Syria, UAE, and Yemen, typically via overland routes and often destined for Saudi Arabia's large domestic market. In addition to the increase in reported seizure weight, the number of individual Captagon (amphetamine) tablets seized in selected countries also showed significant increases during the period 1998 to 2007.

Fig. 87: Regional shifts in proportion of amphetamine seizures, 2000-2007

Source: UNODC, Annual Report Questionnaire Data/DELTA; UNODC Drug Information Network for Asia and the Pacific (DAINAP); Government reports; World Customs Organization (WCO), *Customs and Drugs Report* 2007 (June 2008) and previous years.



11 In March 2009, Saudi Arabia arrested 35 drug traffickers believed part of four different drug networks operating across the country, along with 3.4 million fake Captagon tablets. Security spokesman of Ministry of Interior; Riyadh, Saudi Press Agency 8 March 2009

The evolution of *Captagon*

Captagon® was originally the trade name for a pharmaceutical preparation containing fenetylline, a synthetic stimulant. Today, *Captagon* accounts for a significant amount of seized amphetamine-type stimulants in several countries, particularly in the Near and Middle East region. However, the drug has experienced a number of transitions since it was first developed for paediatric and geriatric use and given its trade name in the 1960s

The original *Captagon* product contained fenetylline, which is metabolized in the human body to amphetamine. Fenetylline essentially exerts the same effects as amphetamine and misuse of fenetylline started as early as the 1970s. Diversion from legitimate trade constituted the main source of fenetylline, and as a result of reports of increasing misuse, the substance was placed under international control in 1986. No licit manufacture has been reported since 1987.

Similar to what has happened with other ATS that have been placed under control, counterfeit or fake products started to appear. In the case of *Captagon*, pharmaceutical companies are reported to have been approached to produce counterfeit *Captagon* tablets. Subsequently, clandestine operators moved to the production of entirely fake products that did not contain any fenetylline but combinations of substances that mimic the effects of the original product. Such fake products are today predominant on illicit markets.

Throughout this transition, the original brand name *Captagon* and the original physical appearance of tablets has continued to be used in an attempt by illicit manufacturers to build on the reputation of the original product.

The primary market for *Captagon* has traditionally been countries in the Near and Middle East, where it is popular among the younger, affluent population and where it has also enjoyed a reputation as sexual stimulant since the beginning of the 1980s.

Today, despite increasing seizures of *Captagon*, there is still a lack of information on its chemical composition. What seems to be clear is that while until the early 1990s seized *Captagon* was found to contain fenetylline, there have not been any such reports since. The few forensic studies available from that time suggest that fake *Captagon* then consisted mainly of combinations of caffeine, ephedrine and quinine, usually mixed with sugars such as lactose. Amphetamine was also occasionally encountered.[1] [2] [3]

More recent studies of *Captagon* seized in Jordan[4], Turkey[5], Serbia[6] and Iraq[7] demonstrated the presence of amphetamine and caffeine in most *Captagon* tablets analyzed. Tablets that did not contain amphetamine, contained caffeine, ephedrine and/or a quinine. Fenetylline was not identified.

The most recent laboratory data (2008/09) come from an analysis of tablets from countries in the Near and Middle East mainly as part of a feasibility study initiated by Interpol aimed at assisting countries in that region in the identification of *Captagon* manufacturing and trafficking trends. The results from a very limited number of tablets from Jordan and Yemen confirm published data in that the main active ingredient is amphetamine. [8]

From the above it is clear that the *Captagon* market has experienced a number of transitions, characteristic for many transitions of a legitimate pharmaceutical to an entirely clandestine product. The limited forensic data available show that *Captagon* today does not contain any fenetylline, but mainly caffeine and a range of other controlled and non-controlled substances. Amphetamine is the ATS most typically associated with today's *Captagon*. The amount of amphetamine found in *Captagon*, however, is generally low (below the standard transformation ratio of 30mg per dose, used in most calculations to convert tablet seizures into units of weight).

The presence of many of the other ingredients cannot be explained easily based on their pharmacology and that of the original drug fenetylline, and remains open to speculation. Synergistic effects, reputation (for example as sexual stimulant), or contamination from the production process are all possible explanations.

Regardless of why *Captagon* tablets nowadays contain such a variety of ingredients, their systematic forensic examination and the collective results, that is, from analysis of the physical appearance (tablet design), the chemical composition (both active ingredients and tableting aids), and the impurity profile of the amphetamine, provide a wealth of valuable information for drug intelligence. So far, this tool remains heavily underutilized.

1 Dimova, D. and Dinkov, N. (1994), Psychotropic Substances of the Amphetamine-Type Used By Drug Addicts in Bulgaria, UNDCP SCITEC Publication Series, SCITEC/10.

2 Al-Gharably, N. and Al-Obaid, A-R. (1994), *Journal of the Forensic Science Society* (now: Science & Justice), 34 (3), 165-167.

3 Al-Hussaini, SR (1996), Counterfeit *Captagon*: an analytical study, *Science & Justice*, 36 (3), 139-142.

4 Alabdalla, M.A. (2005), Chemical characterization of counterfeit *Captagon* tablets seized in Jordan, *Forensic Science International*, 152, 185-188.

5 Turkish Drug Report, 2001

6 Nevešćanin, M., et al. (2008), Analysis of amphetamines illegally produced in Serbia, *Journal of the Serbian Chemical Society*, 73 (7), 691-701.

7 Intelligence alert, *Captagon* mimic tablets (containing *d,l*-amphetamine, caffeine, theophylline, and other components) in Al Anbar province, Iraq, *Micogram Bulletin*, 42 (3), March 2009; Note: Amphetamine calculated as sulfate; diphenhydramine and quinine calculated as hydrochlorides.

8 Rainer Dahlenburg, Forensic Expert, Bundeskriminalamt, Germany, personal communication.

Map 19: Notable Near and Middle East Trafficking Routes of Amphetamines-group Substances

Sources: Lebanon Drug Enforcement Central Bureau, presentation at the Working Group Meeting on Captagon Smuggling to the Middle East Region, Beirut, Lebanon (December 2008); Turkish National Police, Department Of Anti-Smuggling and Organized Crime (KOM), presentation at the Working Group Meeting on Captagon Smuggling to the Middle East Region, Beirut, Lebanon (December 2008); Policies Achievements Ongoing programs and Future Plans. Drug Control Headquarters Islamic Republic of Iran (Tehran, 2008); World Customs Organization (WCO), Customs and Drugs Report 2007 (June 2008).

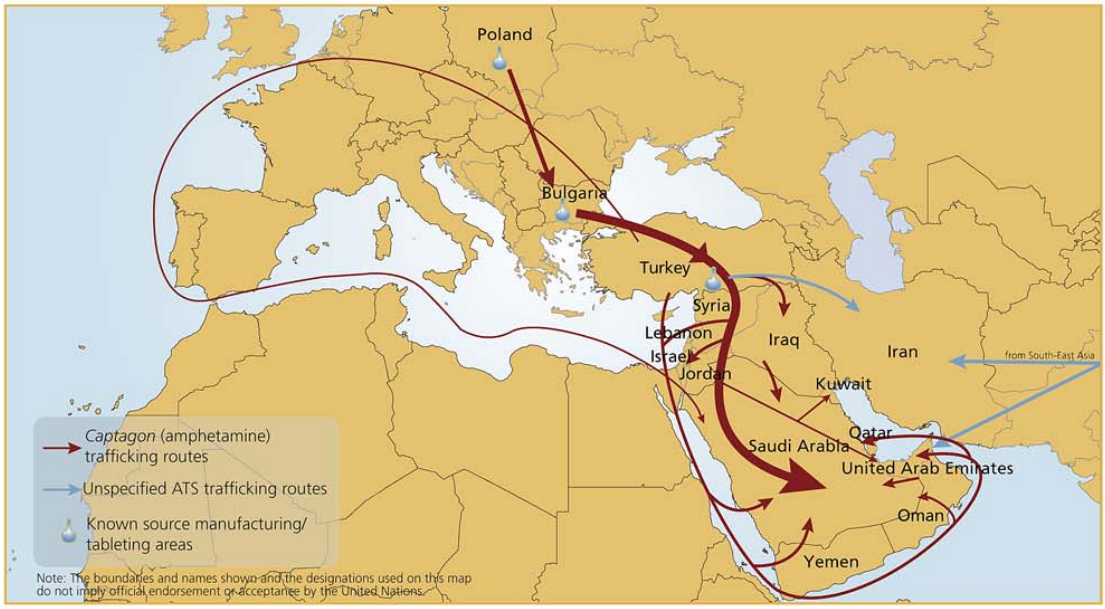
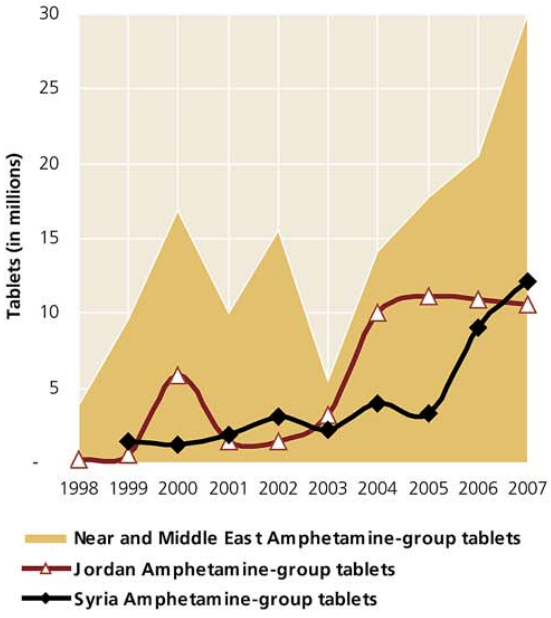


Fig. 88: Captagon (amphetamine) tablets reported in the Near and Middle East, with selected countries[12]: 1998-2007

Source: UNODC, Annual Report Questionnaire Data/DELTA; Government reports.



European amphetamine seizures continue to grow

Historically, global amphetamine manufacture and trafficking have been concentrated in Europe. Considering amphetamine and non-specified amphetamines together,[13] since 1990, there has been an increase in combined amphetamine and non-specified amphetamines seized in Europe, with a total of 8.9 mt for 2007.

Over the last decade, 10 European countries have accounted for more than 90% of seized amphetamine and non-specified amphetamines in Europe, and 38% of global seizures. The United Kingdom intercepts the most amphetamine in Europe. Since 1998, the UK has seized a total of 17.8 mt. The Netherlands in 2007 reported the largest single year seizure total (2.9 mt) of any European country in the last decade.

12 Although seized, not all countries provide seized tablet data in units, therefore this should be viewed as the minimum number of tablets seized. In some cases Member States report seized tablets already converted in kilograms, often using unknown transformation ratios (if any). When tablets/ pills/ doses are reported to UNODC, a standard transformation ratios of 30 mg per dose of psychoactive ingredient for amphetamine of methamphetamine is used.

13 Very little methamphetamine is reported in Europe, and it can be assumed that "non-specified amphetamines" are amphetamine. Tableted ATS with an imprinted logo without forensic confirmation is likely reported as "ecstasy" by law enforcement.

Fig. 89: Amphetamine (with non-specified amphetamines) seized in Europe, 1990-2007

Source: UNODC, Annual Reports Questionnaire Data.

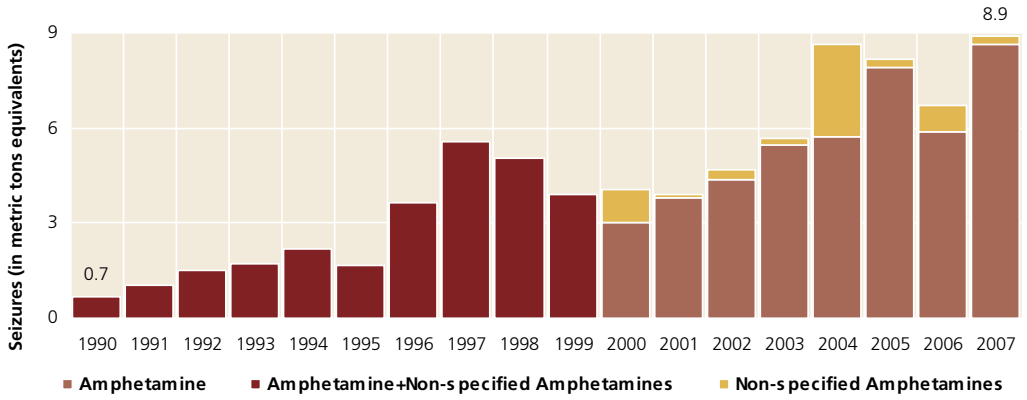


Table 21: Top European Countries (rank ordered) in combined amphetamine and non-specified amphetamine seizures (mt), 1998-2007

Source: UNODC, Annual Reports Questionnaire Data/DELTA

County (Top 10)	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	Total
United Kingdom*	1.81	1.30	2.03	1.85	1.55	1.78	1.49	2.23	1.64	2.07	17.75
Netherlands	1.46	0.85	0.29	0.58	0.48	0.88	0.59	2.03	0.63	2.85	10.64
Belgium	0.45	0.34	0.08	0.08	0.50	0.21	2.54	0.18	0.12	0.48	4.97
Germany	0.31	0.36	0.27	0.26	0.36	0.48	0.56	0.67	0.71	0.81	4.80
Bulgaria	0.00	0.09	0.21	0.06	0.18	0.59	1.46	1.12	0.88	0.12	4.71
Sweden	0.13	0.12	0.10	0.25	0.33	0.33	0.44	0.42	0.42	0.29	2.83
Turkey	0.01	0.04	0.01	0.03	0.26	0.16	0.35	0.27	0.73	0.46	2.32
Poland	0.05	0.05	0.14	0.19	0.16	0.19	0.24	0.46	0.33	0.42	2.25
France	0.20	0.23	0.52	0.06	0.15	0.27	0.08	0.11	0.08	0.31	2.00
Norway	0.21	0.05	0.09	0.09	0.21	0.22	0.23	0.12	0.32	0.39	1.93
Subtotal	4.64	3.43	3.75	3.46	4.18	5.11	7.96	7.60	5.86	8.21	54.20

* England, Wales, Scotland and Northern Ireland.

Trafficking in methamphetamine

Methamphetamine markets are concentrated in East and South-East Asia and North America, but more countries are reporting seizures

Although the total amount of methamphetamine seized in 2007 has decreased in comparison with previous years, the increasing number of countries reporting seizures suggest that the market is expanding geographically. The amount of methamphetamine seized in 2007 (18.2 mt) represents about half of the amount seized at its peak in 2000. In 2007, several countries reported methamphetamine seizures to UNODC for the first time, including Azerbaijan, Belarus, Bosnia and Herzegovina and Kyrgyzstan.[14] While the amounts reported were relatively small, they illustrate the geographical spread of methamphetamine.

14 Kyrgyzstan's seizure was reported in 2008. See UNODC, *Global SMART Update 2009*, Volume 1 (March).

Fig. 90: Methamphetamine seizures, by subregion, 2007 (18.2 mt)

Source: UNODC, Annual Report Questionnaire Data/DELTA; UNODC Drug Information Network for Asia and the Pacific (DAINAP); Government reports; World Customs Organization (WCO), *Customs and Drugs Report* 2007 (June 2008) and previous years.

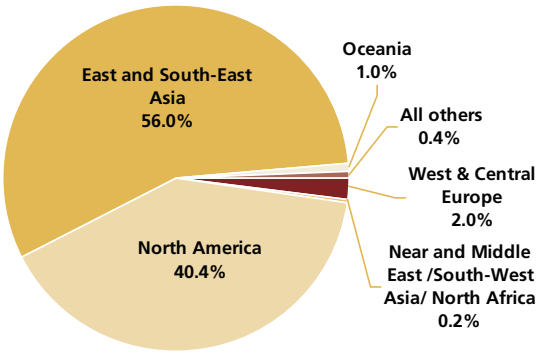


Table 22: Top countries (rank ordered) in methamphetamine seizures (mt), 1998-2007

Source: UNODC, Annual Reports Questionnaire Data/DELTA

Top Member State/Territory	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	Total
China	1.61	16.06	20.90	4.84	3.19	5.83	2.75	6.76	6.07	6.09	74.10
Thailand	3.01	4.52	10.08	8.34	8.63	6.51	2.12	0.79	0.51	1.29	45.78
USA	0.00	2.64	0.00	2.86	1.11	3.86	5.74	6.24	7.61	4.89	34.94
Taiwan, Prov. of China	0.89	1.22	0.84	1.16	1.30	3.98	3.17	1.73	0.20	0.12	14.59
Philippines	0.00	0.94	1.02	1.71	0.91	3.12	3.73	0.10	0.77	0.37	12.68
Mexico	0.00	0.36	0.64	0.40	0.46	0.73	0.95	0.90	0.75	0.92	6.11
Myanmar	0.00	0.89	0.81	0.99	0.42	0.10	0.00	0.39	0.58	0.52	4.70
Japan	0.00	0.00	1.03	0.42	0.44	0.49	0.51	0.13	0.15	0.36	3.53
Indonesia	0.01	0.22	0.01	0.00	0.05	0.02	0.03	0.26	1.24	1.23	3.07
Canada	0.00	0.00	0.02	0.05	0.03	0.02	0.05	0.06	0.06	1.54	1.82
Subtotal	**5.52**	**26.84**	**35.35**	**20.76**	**16.53**	**24.67**	**19.04**	**17.35**	**17.93**	**17.34**	**201.31**
Percent of global seizures	100.0%	99.7%	98.8%	98.5%	98.5%	96.7%	96.9%	95.9%	95.3%	95.2%	

The subregions of East and South-East Asia (56%) and North America (40%) continue to account for most of the world's seized methamphetamine, with relatively low seizures reported elsewhere. Over the last decade, 10 Member States (or their territories) accounted for more than 95% of all reported seizures.

Over the last decade, several changes have occurred. In 1998, 10 Member States (or territories) accounted for all global seizures of methamphetamine. In 2007, the same 10 Member States accounted for 95%, suggesting that other countries have emerged in the market. Canada increased its prominence in 2007, linked to increased manufacture and export by organized crime groups. The USA saw significant declines in methamphetamine seized in 2007.

Methamphetamine trafficking shifts quickly, with devastating effects

The Greater Mekong Subregion (GMS),[15] where some of the largest single methamphetamine seizures in the world have occurred, is central to methamphetamine manufacture, trafficking and use. Thailand, the largest market in the GMS, significantly increased law enforcement efforts in 2003/04 in response to widespread methamphetamine use. As a result, illicit trafficking in the GMS has relocated from the Golden Triangle[16] into neighbouring countries, including Cambodia, Lao People's Democratic Republic and Viet Nam.

Emerging trends can be more clearly seen when measuring the number of tablets seized, instead of the total weight. In 2004, tableted methamphetamine *(yaba)* seizures began increasing in Cambodia, Lao PDR, and Viet Nam, suggesting that trafficking routes shifted to the Mekong River. These shifts have accompanied increased use in the general population

Trafficking outside the subregion has also increased. Historically, trafficking of methamphetamine was intra-regional, with laboratories manufacturing for the nearby domestic market. However, over the last few years, organized crime groups have increased their involvement, bringing improved logistics, sophistication and production capacity, a more varied product line, and the ability to quickly move manufacture to geographic areas with weak control regimes.[17] Interregional trafficking routes have been identified from Myanmar to Bangladesh and India; from Hong Kong, China, to Australia, Indonesia, Japan and New Zealand; from the Philippines to Australia, Canada, New Zealand, and the USA; and from East and South-East Asia into the Islamic Republic of Iran, Saudi Arabia and the UAE.

Methamphetamine trafficked from Mexico drops in 2007, but may be temporary

Most methamphetamine trafficking in North America supplies demand in the USA. Methamphetamine manufacture in Mexico, and increasingly Canada, represent the bulk of methamphetamine trafficked into the USA. Following consistent increases for several years, 2007 marked the first decline in methamphetamine seized by the US authorities along the border with Mexico. This trend was reversed however in 2008, with a return to an increase in border seizures,[18] probably due to increasing

15 A region encompassing Cambodia, Lao People's Democratic Republic, Myanmar, Thailand, Viet Nam, and bordering provinces of south China.

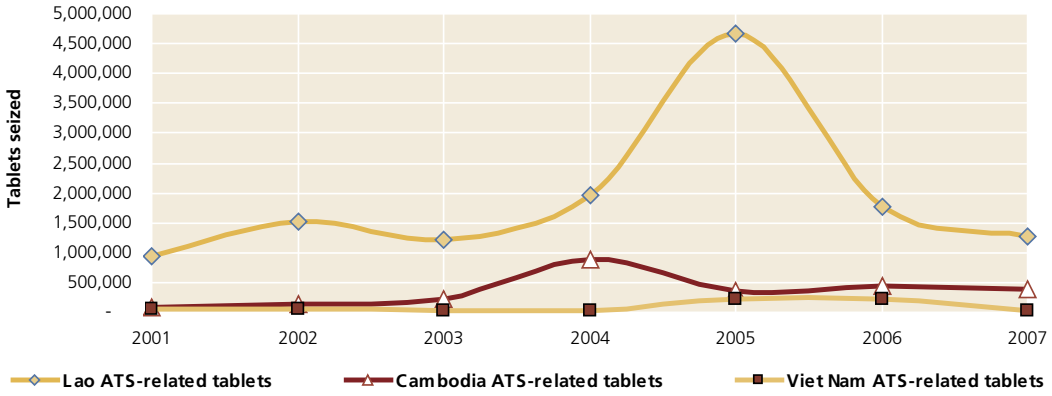
16 The Golden Triangle is an area overlapping the borders of Lao PDR, Myanmar and Thailand.

17 Amphetamines and Ecstasy: 2008 Global ATS Assessment (United Nations publication, Sales No. E.08.XI.12).

18 USA National Drug Intelligence Center, *National Methamphetamine*

Fig. 91: Seized methamphetamine-related tablets, by select country, 2001–2007

Source: UNODC, Annual Report Questionnaire Data/DELTA; UNODC Drug Information Network for Asia and the Pacific (DAINAP); Viet Nam Country Report from the Joint Meeting of the Fourth Asian Collaborative Group on Local Precursor Control and Fourth International Forum on Control of Precursors for ATS Meetings (Tokyo, February 2008).

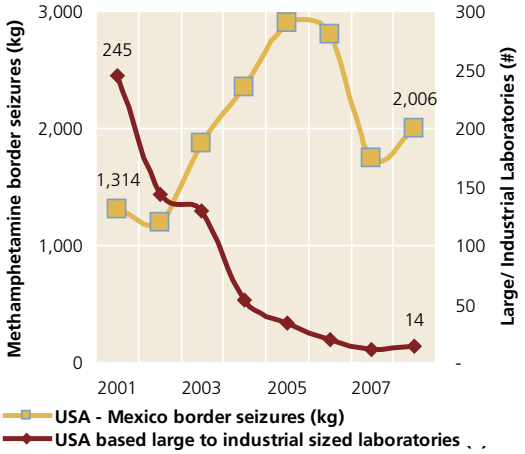


methamphetamine manufacturing capacity and sophistication in Mexico. Another reason for increases in the USA is related to growing 'smurfing' activity, where criminal groups obtain precursor chemicals used in manufacture through small purchases from multiple pharmacies, avoiding sales restrictions and law enforcement attention.[19] In Mexico, drug cartels also utilize non-pseudo/ephedrine based precursor processes and have the capacity to shift operations further south to other Latin American countries in order to acquire traditional chemical precursors.

Canada-based organized crime groups' participation in the methamphetamine trade has grown significantly since 2003. By 2006, law enforcement intelligence noted that Asian organized crime and traditional outlaw motorcycle gangs operating in Canada had increased the amount of methamphetamine they manufactured and exported, primarily into the USA, but also to Oceania and East and South-East Asia.[20] For example, Australia identified that methamphetamine from Canada accounted for 83% of total seized imports by weight, for Japan the figure was 62%.[21] Although only 5% of domestically manufactured methamphetamine was exported in 2006, by 2007 that figure was 20%.

Fig. 92: USA seizures of methamphetamine near the Mexico border versus seizures of large to industrial scale USA clandestine methamphetamine manufacture, 2001-2008*

Source: USA National Drug Intelligence Center, *National Methamphetamine Threat Assessment 2009 (and previous years);* USA Drug Enforcement Administration, Office of Diversion Control. *Data as of November, 2008



The geographic spread of methamphetamine increases

The increased reports of methamphetamine use outside East and South-East Asia and North America are also reflected in the growing number of countries and territories reporting seizures. In 2007, only 10% of reporting countries outside East and South-East Asia reported seizures of methamphetamine. This figure increased to 25% in 2007. Countries are also reporting larger average seizures than in the past. As trafficking routes shift into

Threat Assessment 2009.

19 This phenomenon, also known as 'pill or pharmacy shopping'or 'pseudo-running', is also observed in other countries where over-the-counter pharmaceuticals used in the manufacture of methamphetamine are restricted (for example, Australia and New Zealand).

20 USA National Drug Intelligence Center, *National Methamphetamine Threat Assessment 2009*.

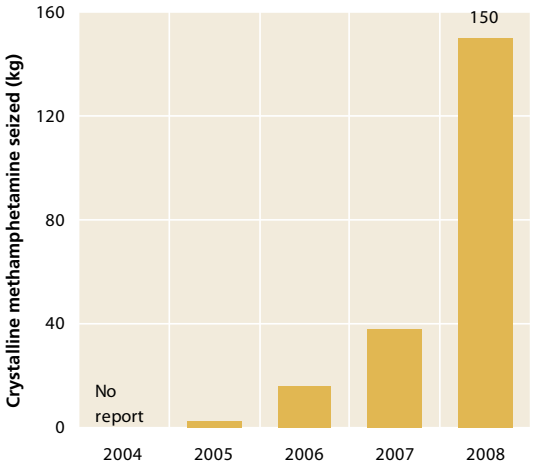
21 Australian Crime Commission (2009). *Illicit Drug Data Report 2006-07* (Revised March 2009); *Recent Illicit Synthetic Drug Smuggling Situation in Japan*. Presented by the Customs and Tariff Bureau, Ministry of Finance, Japan at the 18th Anti-Drug Liaison Officials' Meeting for International Cooperation (ADLOMICO), (Pusan, Republic of Korea, 2008).

new countries, spillover drug use in the general population and subsequent uptake can quickly occur.

Although the Near and Middle East subregion has a well-established amphetamine market (fake Captagon), there is increasing evidence that methamphetamine (including the crystalline form) is also trafficked there. In 2008, the Islamic Republic of Iran reported its largest seizure of crystalline methamphetamine (150 kg), whereas in 2004, there were no reports of methamphetamine. This is consistent with reports of increased use.[22] Significant seizures have also been reported in Saudi Arabia,[23] including a 23 kg methamphetamine shipment originating in the Syrian Arab Republic.[24]

Fig. 93: Islamic Republic of Iran: seizure of crystalline methamphetamine, 2004-2008

Source: Policies Achievements Ongoing Programs and Future Plans, Islamic Republic of Iran, Drug Control Headquarters (Tehran, 2007); Drug Control in 2008: Annual report and rapid situation assessment. Islamic Republic of Iran, Drug Control Headquarters (Tehran, 2009); UNODC, Field Office Report (2005).

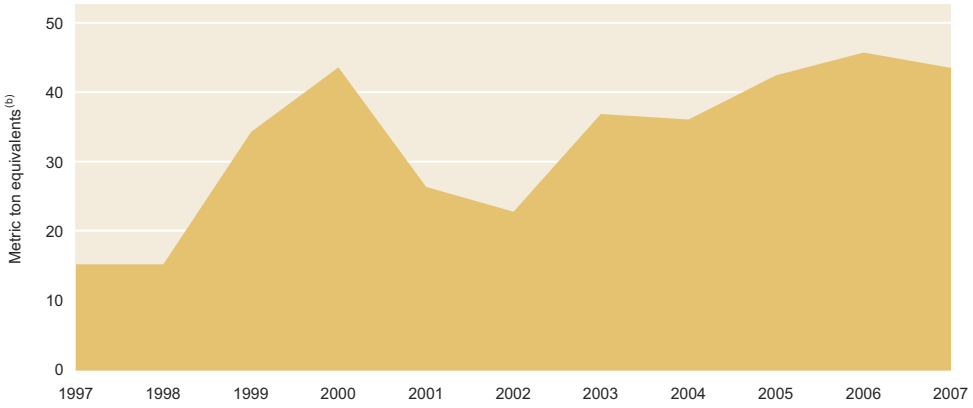


22 *Drug Control in 2008: Annual report and rapid situation assessment.* Islamic Republic of Iran, Drug Control Headquarters (Tehran, 2009).

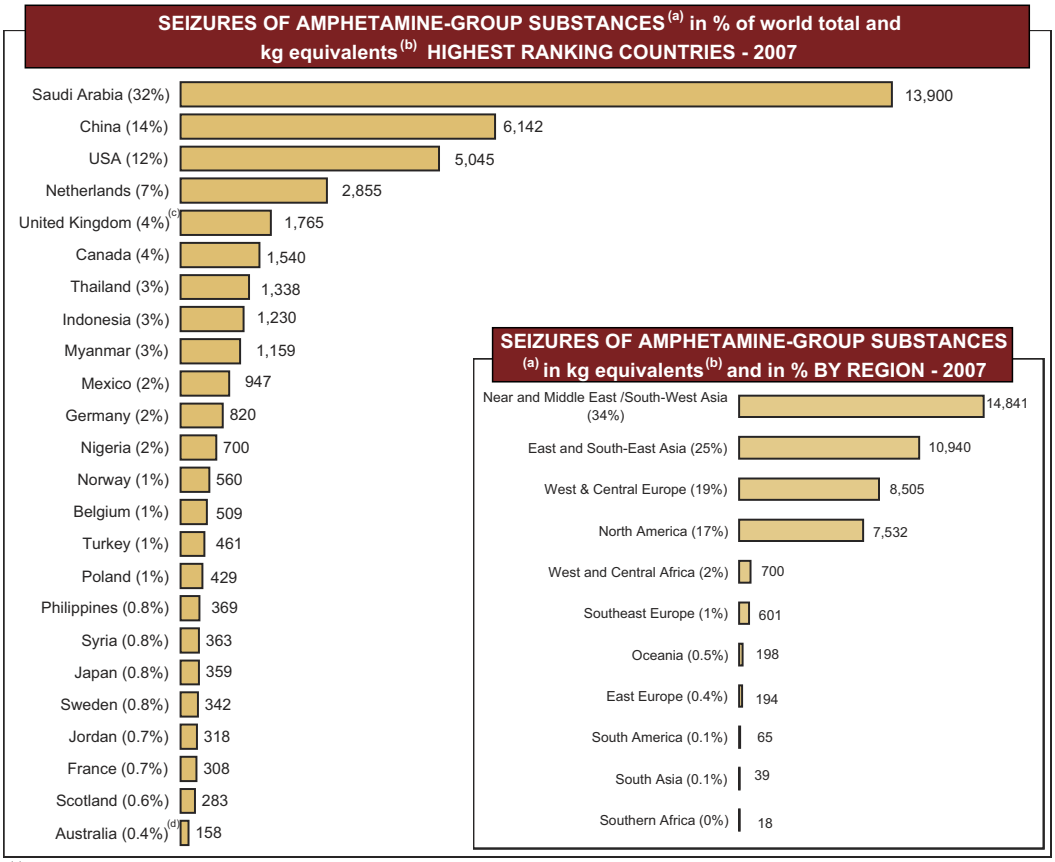
23 *Amphetamines and Ecstasy: 2008 Global ATS Assessment* (United Nations publication, Sales No. E.08.XI.12).

24 World Customs Organization (WCO), *Annual Customs and Drugs Report 2007* (Brussels, 2008).

Fig. 94: Global seizures of amphetamines[a], 1997-2007

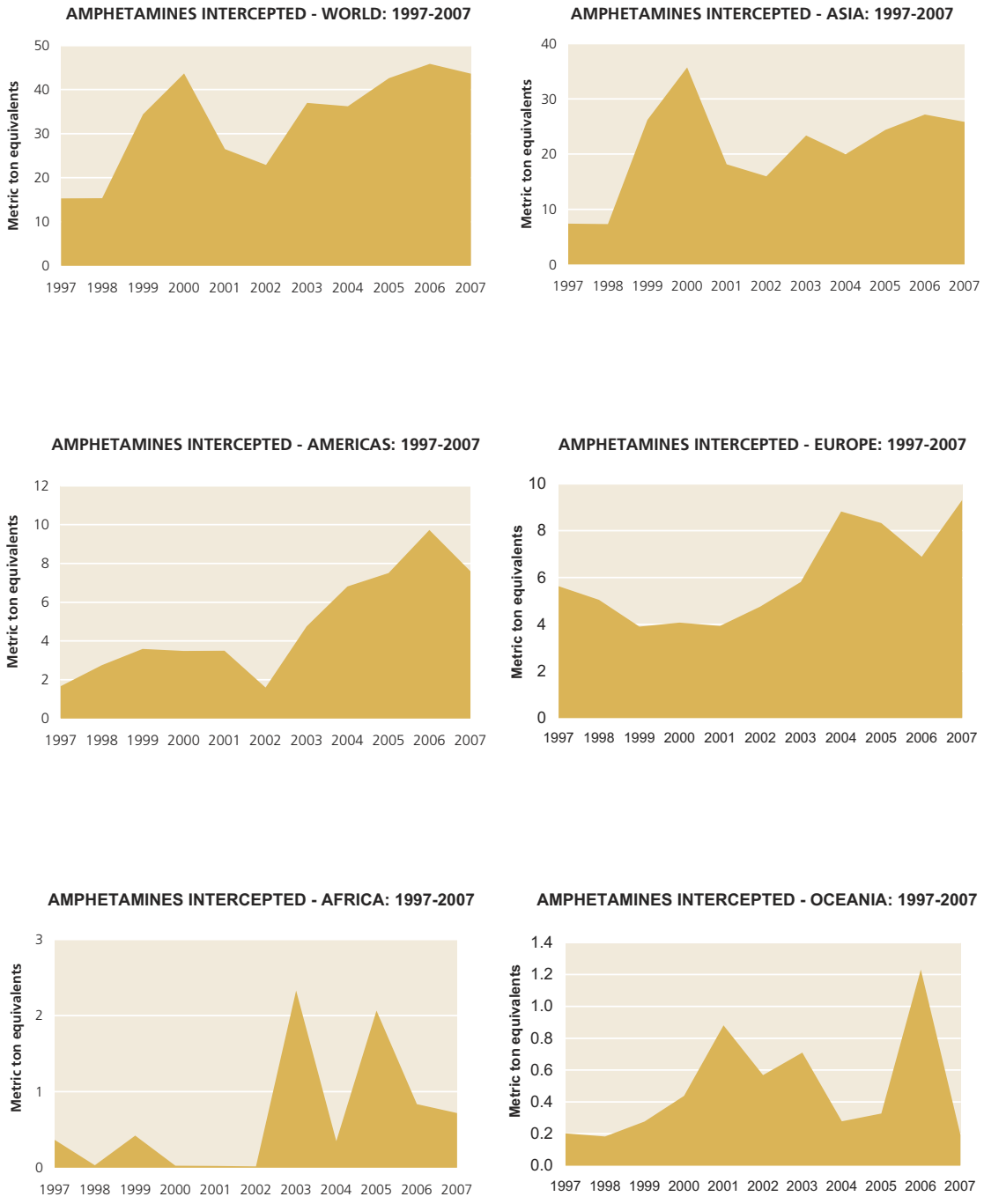


Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Metric ton equivalents[b]	15	15	34	44	26	23	37	36	43	46	44

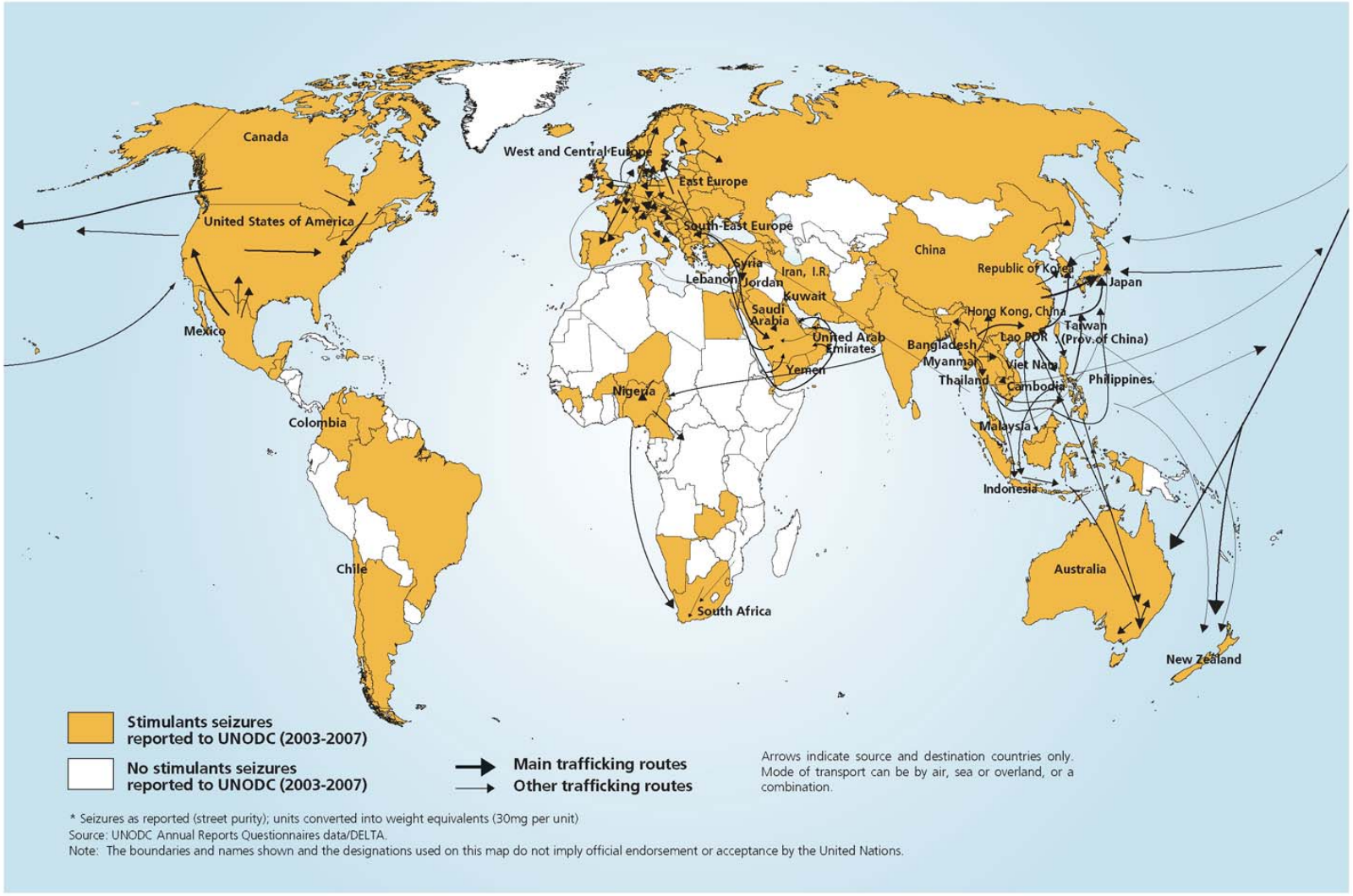


[a] Amphetamine-group substances are amphetamine, methamphetamine and related non-specified amphetamines (excludes *ecstasy-group* substances).
[b] 1 dosage unit is assumed to be equal to 30 mg; 1 litre is assumed to be equal to 1 kg.
[c] Data refer to England and Wales only.
[d] Total seizures reported by national as well as state and territory law enforcement agencies which may result in double counting.

Fig. 95: Interception of amphetamines-group substances, 1997-2007



Map 20: Amphetamines trafficking routes, 2007

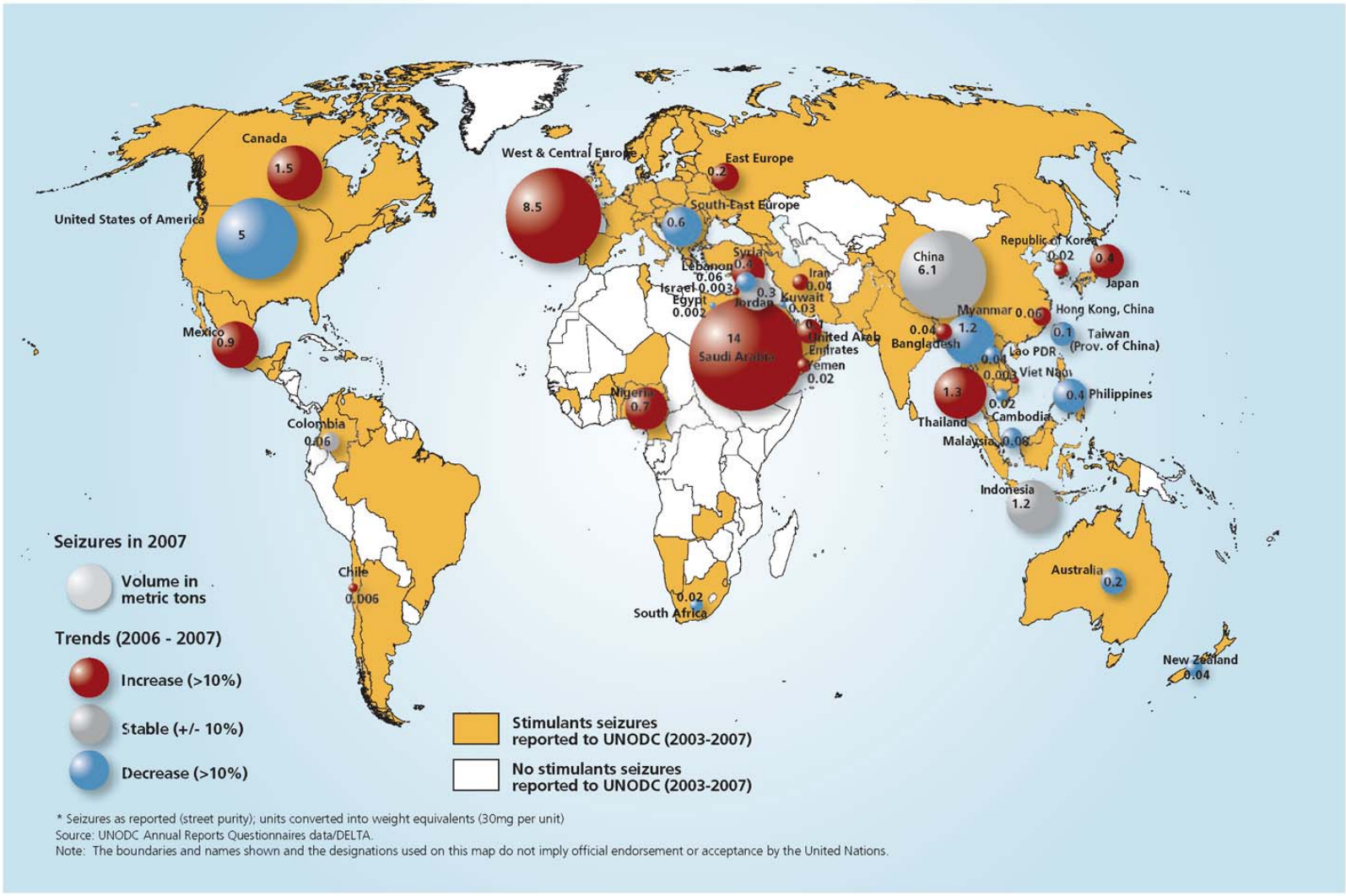


* Seizures as reported (street purity); units converted into weight equivalents (30mg per unit)

Source: UNODC Annual Reports Questionnaires data/DELTA.

Note: The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.

Map 21: Seizures of amphetamines, 2007 (countries reporting seizures* of more than 1 kg)



* Seizures as reported (street purity); units converted into weight equivalents (30mg per unit)
Source: UNODC Annual Reports Questionnaires data/DELTA.
Note: The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.

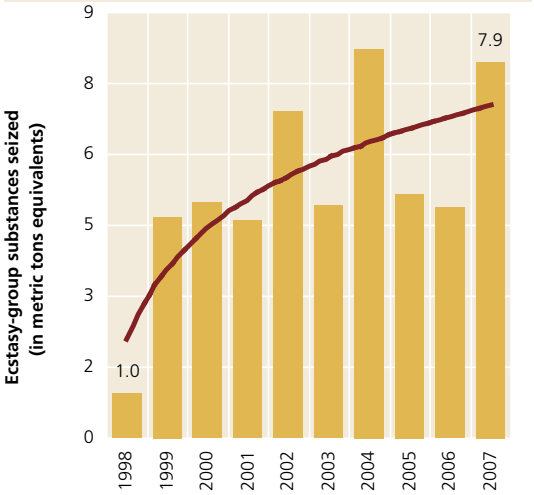
Trafficking in ecstasy-group substances

Ecstasy seizures increase in most regions

Ecstasy-group seizures increased by 62% in 2007 to a total of 7.9 mt. Notable increases were reported in subregions with significant trafficking activity: West and Central Europe, Oceania, East and South-East Asia, and North America. Six countries accounted for more than 80% of reported seizures, with the largest amounts reported by the Netherlands (25% of total), followed by Australia, USA, Canada, the UK[25] and China.

Fig. 96: Global ecstasy-group substance seizures, 1998-2007

Source: UNODC, Annual Reports Questionnaire Data / DELTA.



Seizures reported from Europe account for the majority (39%) of global seizures, as significant manufacturing continues in the West and Central subregion, most notably in the Netherlands and Belgium. However, around 2002/03 subregions outside of Europe began reporting increased domestic manufacture.

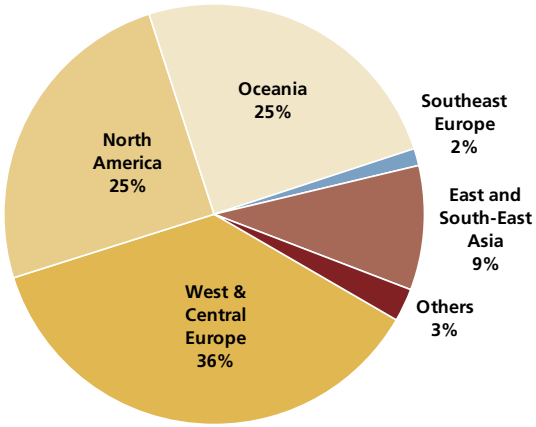
In 2007, 52% of Member States reported seizures of ecstasy-group substances in 2007, almost double that of 1998 (27%). The average amount reported seized per country increased five-fold, from about 21 kg in 1998 to 115 kg in 2007.

West and Central Europe remains a dominant source for ecstasy

Although more ecstasy-group manufacture is taking place outside of Europe, it remains the main illicit manufacturing region. Customs interceptions in 2007 were most commonly reported in the Netherlands (88 cases) and Belgium (22 cases).[27] Increased European seizures in 2007 are likely related to increases in MDMA availability as seen in forensic profiling. Large numbers of tablets containing very high levels of MDMA were also reported. Following temporary shortages of MDMA after the dismantling of one of the largest MDMA laboratories ever discovered in the Netherlands in 2005,[28] markets appeared to rebound by 2007, with MDMA content of 'ecstasy' tablets returning to previous, or higher, levels. Additionally, there were reports of high content (100-125 mg) MDMA mixed with alcohol called "Original 69" and "Dance Love Sex" appearing on the market.[29]

Fig. 97: Proportion of ecstasy-group substance seizures, by subregion, 2007

Source: UNODC, Annual Reports Questionnaire data



Although notable domestic manufacture of MDMA occurs in countries in other regions, such as Australia, it is clear that exports from West and Central Europe and East and South-East Asia continue to play a significant role in domestic market supply. West and Central Europe, for example, was the source of a record interception of ecstasy in Australia in June 2007.[30]

25 Data for the UK (England and Wales) reported in the 2007 ARQ are placeholders from 2006, as reporting is delayed. UK data include Scotland and Northern Ireland figures from 2007.

26 A reported tablet of "ecstasy" was assumed to contain on average 100 mg of MDMA.

27 World Customs Organization (WCO), *Annual Customs and Drugs Report 2007* (Brussels, 2008).

28 In May 2007, police in Veldhoven, Netherlands, seized a warehouse with one of the largest drug caches ever discovered, reportedly containing 780 kg of MDMA and 3.5 million ecstasy tablets.

29 *The Netherlands Drug Situation 2008: Report to the EMCDDA by the Reitox National Focal Point*, Trimbos Institute, Utrecht, Netherlands, 2009.

30 Australian authorities completed a year-long controlled delivery of nearly 15 million tablets, with a total weight of 4.42 mt, which departed from Italy. Australian Crime Commission (2009). *Illicit Drug Data Report 2006–07*, Revised March 2009.

Fig. 98: Ecstasy-group tablets seized in Japan and Indonesia, 1998-2007

Source: UNODC, Annual Reports Questionnaire data

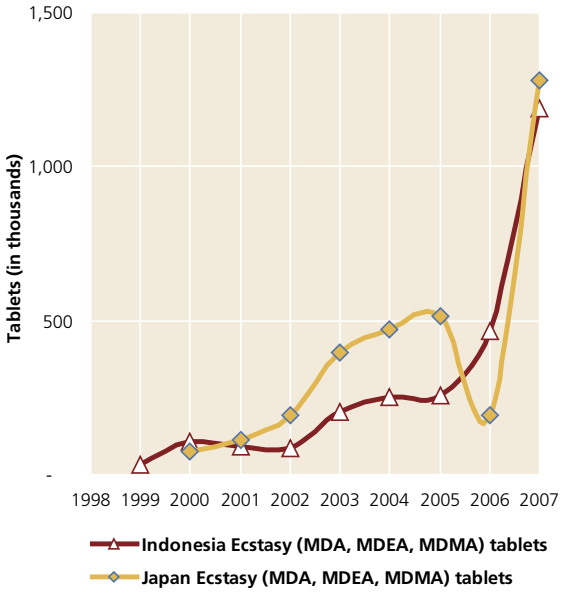
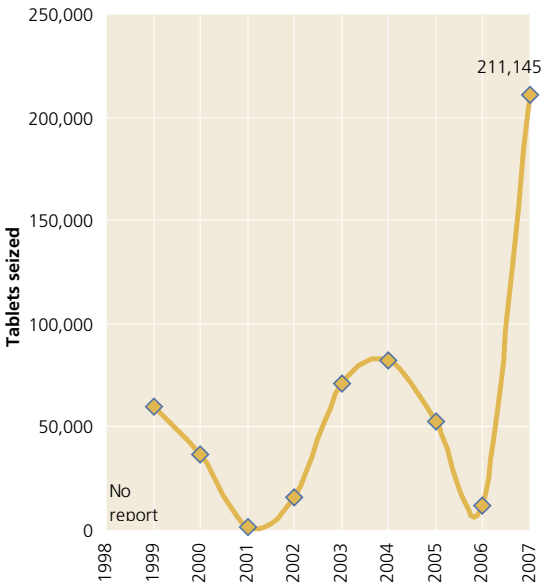


Fig. 99: Ecstasy-group tablets seized in Brazil: 1998-2007

Source: UNODC, Annual Reports Questionnaire data



Since 2003/04 Canada has emerged as the primary source of ecstasy-group substances for North American markets, and increasingly for other regions. As of 2007, identified ecstasy laboratories were large-capacity facilities primarily controlled by Asian organized crime groups, utilizing precursor chemicals trafficked from China in sea containers. In 2007, it was estimated that 50% of domestically produced ecstasy was trafficked outside of Canada. Most of this was thought to be destined for the USA, Australia and Japan.

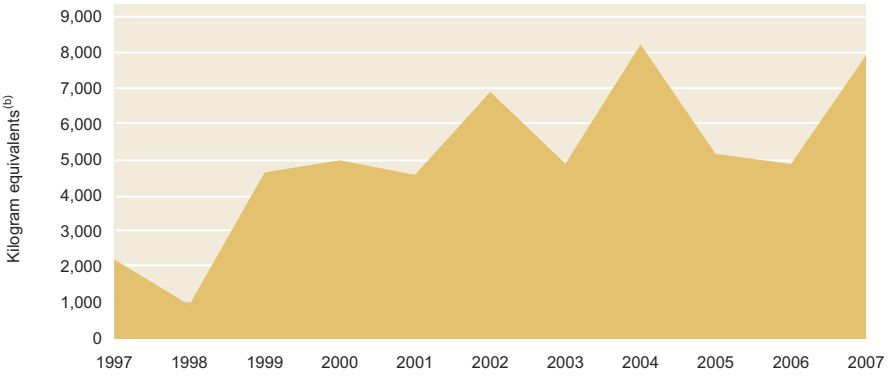
Japan, Indonesia and other countries in East and South-East Asia have reported significant trafficking of ecstasy. Unlike Indonesia, Japan has no domestic ATS manufacture, so increases in ecstasy are all from imports, often via organized crime groups. In 2007, Japan identified Canada as the single biggest source for seized ecstasy tablets, followed by the Netherlands, Germany, and Belgium.[31]

In Latin America, there remains concern that ecstasy-groups drugs, sourced from West and Central Europe are increasingly being used, particularly among young, affluent urban dwellers. There are few ATS-related trafficking data available in the region, partly due to the fact that law enforcement focusses on coca-based substances. However, data from Brazil clearly indicate that increasing numbers of tablets are being intercepted, with more than 210,000 seized in 2007.[32] The increase may also be related to domestic manufacture of ecstasy as the first clandestine laboratory was discovered in 2008.

31 *Recent illicit Synthetic Drug Smuggling Situation in Japan*. Presented by the Customs and Tariff Bureau, Ministry of Finance, Japan at the 18th Anti-Drug Liaison Officials' Meeting for International Cooperation (ADLOMICO), (Pusan, Republic of Korea, 2008).

32 In February 2009, Brazil Federal Police arrested 55 people nationwide that were part of an international drug trafficking ring. The members–mostly young and middle-class–would traffic cocaine from South America to Europe in return for ecstasy to sell in Brazil. "Ecstasy Ensnares Upper-Class Teenagers in Brazil," New York Times, 15 February 2009, www.nytimes.com/2009/02/15/world/americas/15ecstasy.html.

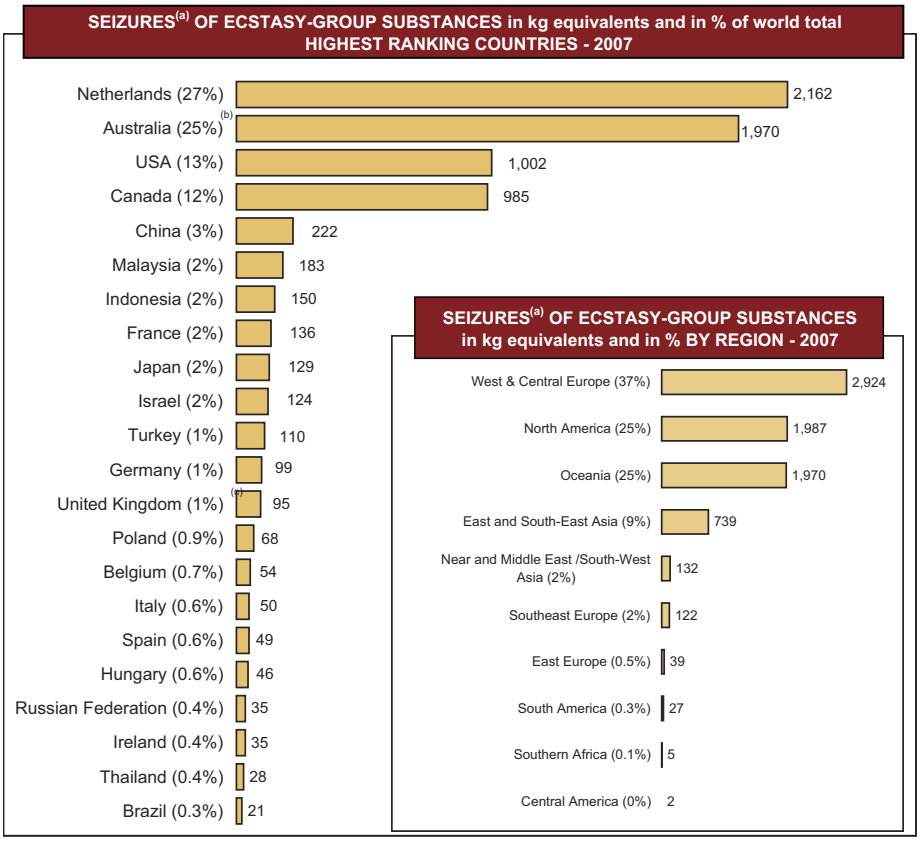
Fig. 100: Global seizures of ecstasy-group[a] substances, 1997-2007



[a] Includes substances believed to be ecstasy (eg, MDMA, MDA, MDE) and may not have been confirmed by forensic testing. Separate reporting of 'Ecstasy' seizures only started with the new ARQ. Before, Ecstasy seizures were included under the category of 'hallucinogens'. Trend data shown above refer to the broader category for 1997-1999 and for Ecstasy for 2000-2007. Over the 2000-2007 period, Ecstasy accounted for 93% of the broader category.

[b] 1 unit is assumed to be equivalent to 100mg of MDMA.

Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Kilogram equivalents	2,227	958	4,661	5,003	4,597	6,916	4,903	8,245	5,180	4,897	7,948

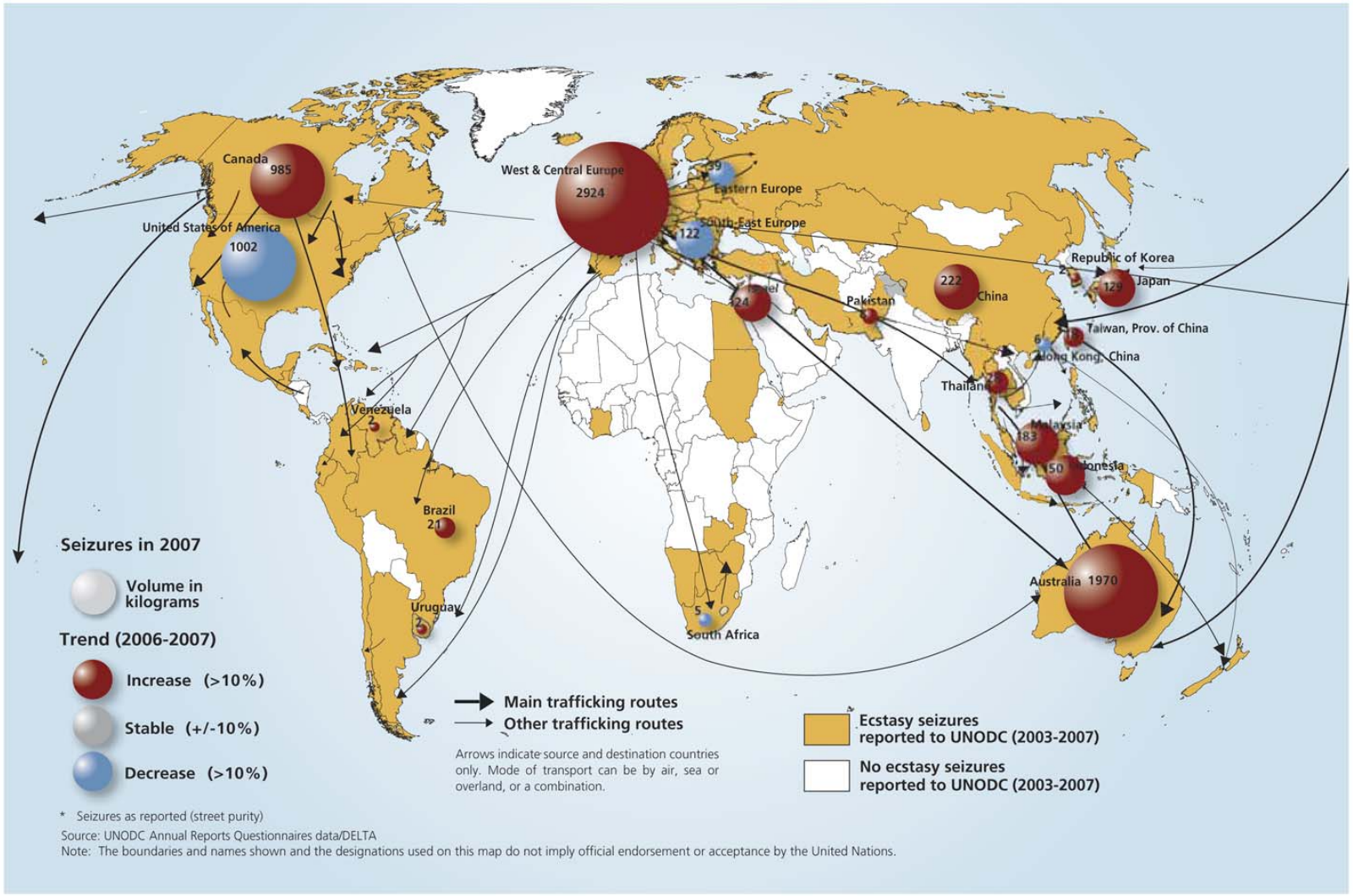


[a] Seizures as reported (street purity); units converted into weight equivalents (100mg / unit)

[b] Total seizures reported by national as well as state and territory law enforcement agencies which may result in double counting.

[c] Data refer to England and Wales only.

Map 22: Ecstasy trafficking routes, 2007



* Seizures as reported (street purity)

Source: UNODC Annual Reports Questionnaires data/DELTA

Note: The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.

1.4.4 Consumption

Amphetamine-type stimulant consumption

The number of ATS consumers is very uncertain

In 2007, there were between 16 and 51 million people aged 15-64 who consumed amphetamines-group substances (annual prevalence 0.4%-1.2%). Ecstasy-group users numbered between 12 and 24 million worldwide (annual prevalence 0.3%-0.5%). The width of these ranges is far greater than for cocaine and heroin.

Illicit drug use is difficult to assess accurately, but ATS use even more so, for a variety of reasons. These include the speed with which ATS markets can appear and expand, the fact that ATS can be manufactured anywhere in the world, the general confusion about what users actually consume, and the high reliance upon limited or non-existent country reporting[1]. This year, significant revisions were made to the approach taken in making global and regional estimates of the number of people who use drugs. The new estimates reflect the uncertainties surrounding these data (which exist due to data gaps and quality) and are presented in ranges rather than absolute numbers. Because of this revision, previous point estimates are not comparable to the current ones.

Amphetamines-group drug consumption

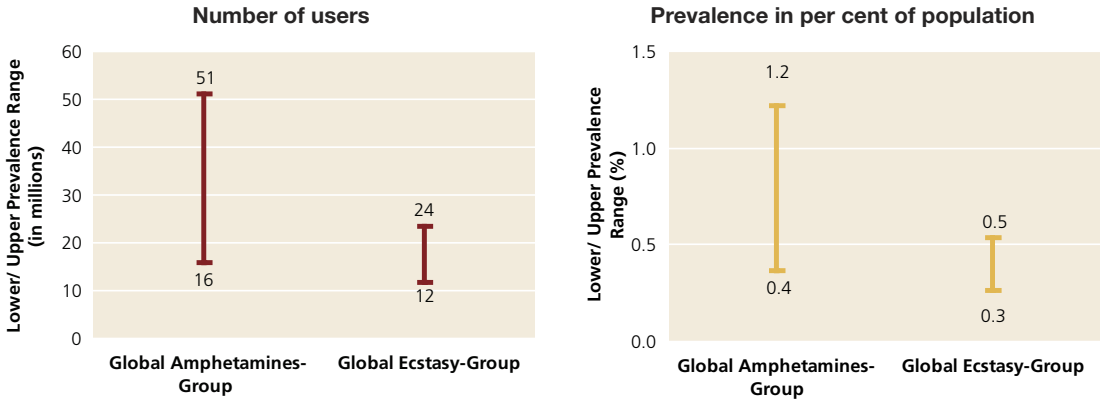
Many countries do not differentiate the type of ATS consumed (methamphetamine, amphetamine or other synthetic stimulants) so only broad estimates of use of specific types can be made, based upon reports and seizure data reported by Member States.

UNODC estimates that methamphetamine users account for 54%-59% of global amphetamines-group substances consumers; amphetamine users account for 32%-35%; and an additional 8%-11% use other non-specified illegal synthetic stimulants (such as methcathinone, pharmaceutical stimulants, et cetera).

Amphetamines-group users in East and South-East Asia consume primarily methamphetamine. Tablets sold as Captagon often contain amphetamine and are used throughout the Near and Middle East. In Europe, users

Fig. 101: Annual prevalence of amphetamine-type stimulant use, by drug group (in numbers and prevalence of population)

Source: UNODC estimate.



Note: 2007 estimates cannot be compared to previous UNODC estimates.

1 *Amphetamines and Ecstasy: 2008 Global ATS Assessment* (United Nations publication, Sales No. E.08.XI.12).

primarily consume amphetamine, with a few exceptions, notably the Czech Republic and some neighbouring countries where methamphetamine use is predominant.

About half of stimulant users in North America use methamphetamine. In Latin America, amphetamines-group use was historically thought to be diverted pharmaceuticals, but increasing incidents of ATS manufacture suggest that this is changing. Use of amphetamines-group substances in South Africa[2] is believed to be predominately methamphetamine; while in Western, Central and Eastern Africa and some parts of Southern Africa the amphetamines-group markets are thought to consist of various pharmaceuticals. Finally, users in Oceania are thought to primarily use methamphetamine.

Uncertain number of ATS users in Asia; South-East Asia probably has the most users in the region

At least half of the world's amphetamines-group users – between 5.8-37.0 million – live in Asia. Most of these are methamphetamine users in East and South-East Asia, which account for between 52-79% of estimated users in the region.[3]

The substantial uncertainty in this region is related to the unknown number of users in China and India. Due to a lack of country-level prevalence estimates, subregional estimates cannot be calculated for South Asia, Central Asia, or the Near and Middle East.[5]

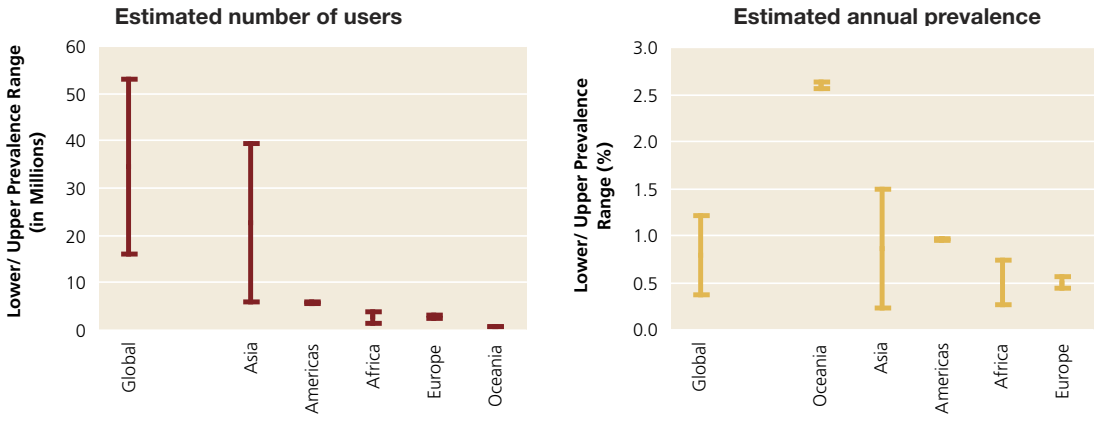
There is more certainty in estimates for the Americas, Europe and Oceania. Oceania had the highest estimated annual prevalence in the general population aged 15-64 (2.6%). The total number of amphetamines-group users in North America is estimated at around 3.8 million people, or some 1.3% of the population aged 15-64. Latin America (including Central America, the Caribbean and South America subregions) had an estimated two million users. In Europe, the number of users is estimated between 2.4 and 3.1 million (0.4-0.6% of the population).

Africa is estimated to have between 1.4 and 4.1 million users. However, subregional estimates could only be calculated for two of the four subregions (North and Southern Africa). For much of Africa, little information related to ATS consumption is available, which explains the greater levels of uncertainty reflected in the prevalence estimates for the region.

The highest annual prevalence ranges in the Oceania region are reported by Australia; in North America, by the USA; and in Europe, by Scotland (UK) and Estonia. In Asia, the highest prevalence ranges are found in the Philippines; in the Caribbean, in the Dominican Republic; in Central America, in El Salvador;[4] in South America, in Brazil; and in Africa, in Nigeria and South Africa.

Fig. 102: Estimated *amphetamines-group* users in the past year by region, 2007

Sources: UNODC, Annual Reports Questionnaire; Government reports; reports of regional bodies; and UNODC estimates.



2 Methcathinone–another ATS–is also commonly used in South Africa.

3 The criteria to calculate subregional estimates include recent (since 1998) representative prevalence estimates from at least two countries in a subregion that, combined, account for at least 20% of the subregion's total population aged 15–64 years.

4 The prevalence estimates for El Salvador may also include non-ATS stimulants (for example, diet/slimming pills or caffeine pills) used without a prescription.

Table 23: Estimated number of people who used amphetamines at least once in the past year and proporton of population aged 15-64, by region, 2007

Sources: UNODC, Annual Reports Questionnaire; Government reports; reports of regional bodies; and UNODC estimates.

Region/subregion (Amphetamines-group)	Estimated number of users annually (lower)	Estimated number of users annually (upper)	Percent of population aged 15-64 (lower)	Percent of population aged 15-64 (upper)
Africa	1,390,000	4,090,000	0.3	0.8
North Africa	240,000	510,000	0.2	0.4
West and Central Africa		Subregional estimate cannot be calculated		
Eastern Africa		Subregional estimate cannot be calculated		
Southern Africa	210,000	650,000	0.2	0.6
Americas	5,650,000	5,780,000	0.9	1.0
North America	3,760,000	3,760,000	1.3	1.3
Central America	310,000	310,000	1.3	1.3
The Caribbean	120,000	250,000	0.5	1.0
South America	1,450,000	1,460,000	0.6	0.6
Asia	5,780,000	37,040,000	0.2	1.4
East/South East Asia	4,600,000	20,560,000	0.3	1.4
South Asia		Subregional estimate cannot be calculated		
Central Asia		Subregional estimate cannot be calculated		
Near and Middle East		Subregional estimate cannot be calculated		
Europe	2,430,000	3,070,000	0.4	0.6
Western/Central Europe	1,590,000	1,690,000	0.6	0.6
East/South East Europe	840,000	1,380,000	0.3	0.5
Oceania	570,000	590,000	2.6	2.6
Global	**15,820,000**	**50,570,000**	**0.4**	**1.2**

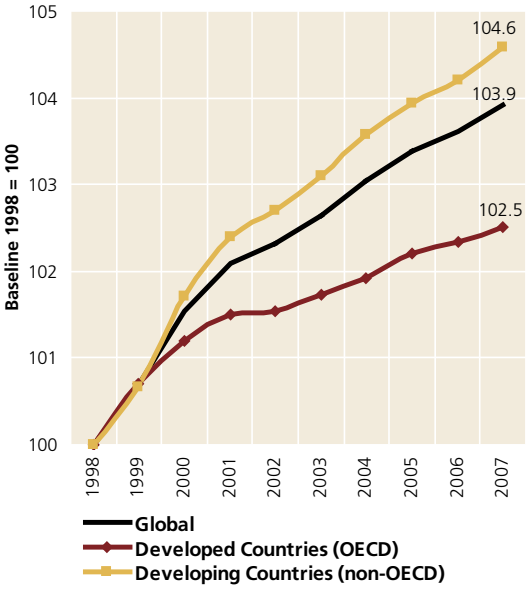
Expert perceptions: ATS growth in developing countries outpacing developed countries

A review of changes in expert perception data[5] in the individual regions between 1998 and 2007 finds continued increases in ATS use. Beginning around 2000, the rate of increases perceived by experts between developed and developing countries diverged, as developing countries, particularly those in Asia and the Americas, more often perceived significant increases in ATS use.[6]

Nearly half of experts from 86 countries perceived that the ATS situation had worsened in their country over the past year, whereas 14% identified some improvement.[7] The proportion of countries reporting a perceived

Fig. 103: ATS use trends as perceived by experts of developed (OECD) and developing (non-OECD) countries, 1998-2007 (baseline: 1998 = 100)

Sources: UNODC, Annual Reports Questionnaire Data, UNODC Field Offices, UNODC's Drug Use Information Network for Asia and the Pacific (DAINAP).



5 Expert perception data is derived from the ARQ, and is unweighted. The following points are allocated if experts perceive: 'strong increase' 2; 'some increase': 1; stable: 0; 'some decline' -1; 'strong decline' -2. If all countries had reported 'some increase', the global trend line would have increased by one point each year and would have reached 109 by 2007.

6 OECD Member countries include: Australia, Austria, Belgium, Canada, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, Luxembourg, Mexico, Netherlands, New Zealand, Norway, Poland, Portugal, Republic of Korea, Slovakia, Spain, Sweden, Switzerland, Turkey, the United Kingdom and the USA.

7 Increases and decreases were coded from some to strong increase/decrease, and represent the unweighted number of Member States and territories responding.

Table 24: Expert perception of changing amphetamine-type stimulant use, by region, 2007

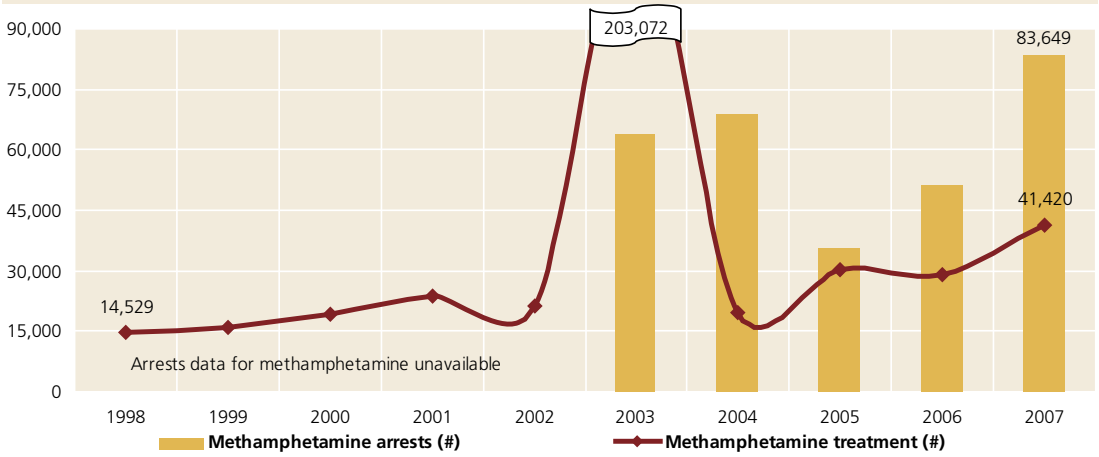
Sources: UNODC, Annual Reports Questionnaire data.

Region	Member States responding	Use problem increased*	Percent use problem increased	Use problem stable	Percent use problem stable	Use problem decreased*	Percent use problem decreased
Europe	34	14	41%	16	47%	4	12%
Americas	16	7	44%	8	50%	1	6%
Asia	25	14	56%	6	24%	5	20%
Oceania	0	0		0		0	
Africa	11	5	45%	4	36%	2	18%
Global	**86**	**40**	**47%**	**34**	**40%**	**12**	**14%**

* Identifies increases/ decreases ranging from either some to strong, unweighted by population.

Fig. 104: Thailand, number of methamphetamine treatment admissions and arrests, 1998-2007

Sources: Office of the Narcotics Control Board, *Thailand Narcotics Annual Report 2003*; UNODC, Improving ATS Data and Information Systems Project; UNODC, Drug Use Information Network for Asia and the Pacific (DAINAP).



increase in ATS use–predominately methamphetamine–was highest in Asia (56%). Subregionally, experts perceived a worsening ATS problem in three distinct areas: central Asia (for example Azerbaijan and Georgia); countries and territories on the east coastal area of Asia (for example, China, Republic of Korea and Viet Nam); and the Near and Middle East and its close neighbours (for example, Cyprus, Jordan, Lebanon, Oman, Pakistan and Qatar).

Methamphetamine was identified as the "most used" illicit drug in Cambodia, Japan, Lao People's Democratic Republic, the Philippines, the Republic of Korea and Thailand.[8] Thailand has the largest market for methamphetamine in South-East Asia's Greater Mekong Subregion.[9] After some apparent reductions in methamphetamine use in 2003/04, recent trends indicate a resurgence of use.[10] The 2007 general population estimates suggest that lifetime methamphetamine prevalence is 1,7%, and annual prevalence 1.4%. This is reflected in treatment and enforcement data. Between 2004 and 2007, the number of people seeking treatment has more than doubled, while arrests for methamphetamine-related offenses increased to their highest level ever in 2007.

Methamphetamine use is spreading throughout the South and South-East Asia

The routes supplying Thailand with methamphetamine changed markedly after 2003/04, with increased use of the Mekong River. This led to drugs transiting through

8 The most recent data reported for Cambodia and Lao PDR is for 2006 (UNODC, *Patterns and Trends of Amphetamine-Type Stimulants and Other Drugs of Abuse in East Asia and the Pacific 2006* (June 2007)). The data for the Republic of Korea do not include cannabis.

9 Cambodia, Lao PDR, Myanmar, Thailand, Viet Nam and bordering provinces of south China.

10 Among other things, the 'Thai war on drugs' had the effect of reducing self-reporting of illicit drug use in surveys; results between 2003 and 2006 indicate low lifetime prevalence rates . Under-reporting of methamphetamine use in Thailand probably continues. See *World Drug Report 2008* (United Nations publication, Sales No. E.08.XI.1).

and into Cambodia, Lao PDR and Viet Nam.[11] Rapid increases in methamphetamine tablets and high purity crystalline methamphetamine uptake soon occurred across Cambodia. In 2007, there were 1,719 drug users admitted to government-operated centres for drug users, a 58% increase over 2006.[12] The majority of users were admitted for methamphetamine. A recent study of 12 provinces also showed that the use of methamphetamine has spread to many rural provinces of the country,[15] possibly related to domestic manufacture of methamphetamine, first reported in 2006 and more significantly again in 2007. Similar changes have been reported to varying degrees in neighbouring countries.

Asia: ATS use appears to be increasing, but by how much?

There are no national prevalence estimates of ATS consumption in China and India. These gaps are major given the size of these countries' populations (0.95 billion persons aged 15-64 years in China, and 0.73 billion persons aged 15-64 years in India). Such gaps have an enormous impact upon the level of certainty of both regional and global ATS use estimates.

Furthermore, with increases in both population and disposable income, their position next to several significant manufacturing countries, and expanding domestic manufacture, both countries face substantial risks related to growing ATS use.

India: India last performed a household survey in 2000/01, but questions specific to various types of ATS consumed were not included. Due to a lack of data for India, estimates cannot be calculated for the South Asia subregion. However, given India's population, its contribution to annual prevalence estimates for Asia (using other regional estimates) may be 29%, which represents millions of potential users.

The last assessment of India's treatment facilities was conducted in 2001. It found that 0.2% of treatment was for ATS. The South Asia subregion is highly vulnerable to an increase in problems related to ATS, however, and it is likely that the extent of use and problems related to use of ATS have increased since that time. First, key ATS precursor chemicals are readily available and significant ATS manufacture is already taking place. Second, the region is home to a large youth population of potential consumers with increasing disposable income. Third, the region's prevention and treatment regimes are largely focused on other drug types. Finally, the geographic location between the significant ATS markets in the Near and Middle East and East and South-East Asia, make the countries particularly vulnerable.

In India and Bangladesh, methamphetamine trafficking via the border with Myanmar, the source of much of Asia's methamphetamine, is increasing. The threat to South Asia was highlighted in May 2008 when a large sophisticated methamphetamine laboratory was seized in Kosgama, Sri Lanka , and in November 2008 when the first operational methamphetamine laboratory was seized in Vadodara, India, along with significant amounts of methamphetamine. In December 2008, an industrial-scale pseudoephedrine extraction operation with nearly 5 metric tons of methamphetamine precursor chemicals was reportedly discovered in Mumbai.

China: China's experts report strong increases in the use of methamphetamine, which coincide with increased domestic manufacture and trafficking, and a year-on-year declines in heroin seizures. In just three years (2004–07), the proportion of registered drug users for ATS increased more than fivefold, from less than 2% to 11% of registered drug users by 2007.[13] In 2008, China reported that 19.1% of its registered drug users nationwide used "new types" of drugs–predominately ATS-related[14]–higher than in previous years. However, no general population estimates of the extent of use of ATS have ever been reported.

In China, methamphetamine in both crystal and tablet forms is trafficked from Myanmar directly or by transiting Lao PDR or Viet Nam. Significant methamphetamine manufacture takes place within China using precursor chemicals diverted from industry or by extracting precursor chemicals from pharmaceutical products. The risk to China was highlighted by very recent large- scale methamphetamine manufacture found using sophisticated methods that do not require controlled precursors. Of note are increasing seizures of ketamine, which although not an ATS is marketed as an ATS-type drug, either by itself, or mixed with other drugs like methamphetamine and sold as ecstasy.

11 *Amphetamines and Ecstasy: 2008 Global ATS Assessment* (United Nations publication, Sales No. E.08.XI.12).

12 Cambodian National Authority for Combating Drugs (2008). *Report on illicit drug data and routine surveillance systems in Cambodia 2007*.

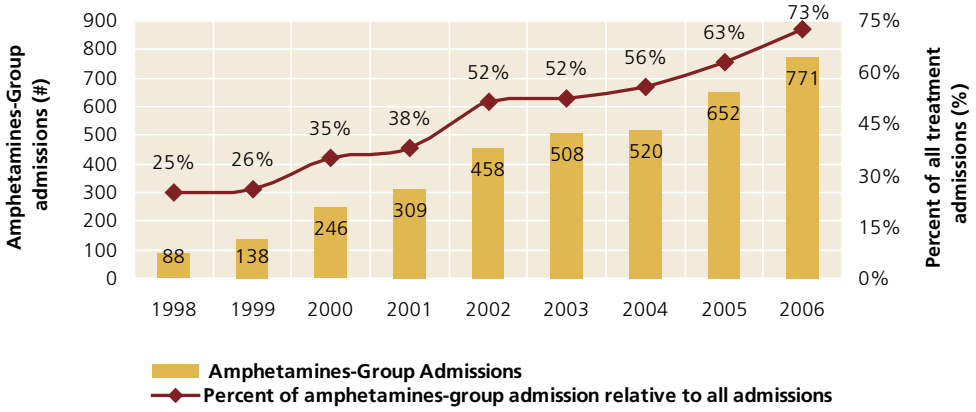
13 UNODC, Development of Community-Based Drug Use Counselling, Treatment and Rehabilitation Services in Cambodia: Commune-based Baseline Behaviour Survey in 60 Communes in 12 Provinces in Cambodia (May 2008).

14 International Cooperation Division, Narcotics Control Bureau, Ministry of Public Security, presentation entitled *'Drug data collection in China'*, 4th International Forum on the Control of Precursors for ATS (Tokyo, 2008).

15 Methamphetamine, ecstasy, ketamine, phencyclidine, and benzodiazepine derivatives. Office of China National Narcotics Control Commission, A*nnual report on drug control in China 2009* (and previous years) (Beijing, 2009).

Fig. 105: Saudi Arabia (Dammam) amphetamines-group treatment admissions, 1998-2006

Source: Abu Madini M. S., Rahima S. I. A., Al-Zahrani M. A. & Al-Johi A. O. (2008). *Two decades of treatment seeking for substance use disorders in Saudi Arabia: Trends and patterns in a rehabilitation facility in Dammam.* Drug and Alcohol Dependence, 97(3), pp 231-236.



Data from East Asia suggest some reductions in use

The Japanese population has experienced several cycles of stimulant use since the end of the Second World War. However, accurately and reliably assessing use in the country's general population presents particular challenges, since typical household-type surveys tend to have extremely low response rates and there may be sensitivity around disclosure of use. Trends in administrative data since 1998/99 suggest that problematic methamphetamine use may be declining: the number of stimulant abuse/dependence cases reported by psychiatric facilities declined 11% from 1999 to 2005, but still account for over half of reported cases.[16] Methamphetamine-related arrests continue to decline, yet account for more than three-quarters of all drug-related arrests.[17]

The Philippines' recent (2007) household survey concluded that annual prevalence of methamphetamine use in the general population declined from 6% (in 2004) to between 1.9-2.4%. Treatment admissions for methamphetamine have also declined from 6,195 in 2003 to 2,562 in 2007, but still account for 60% of new admissions.[18] Significant manufacturing and trafficking of ATS continue to be problematic for the country.

Some Near and Middle East countries emerge as significant amphetamine consumers

The Near and Middle East has been reporting dramatic increases in ATS–predominately fake pharmaceuticals sold as *Captagon* – over the last few years. Saudi Arabia, the largest market, has seen increases in problem use that coincide with significant increases in region-wide seizures. One specialized drug treatment hospital found that between 1998-2006, treatment admissions for amphetamines-group use increased nine-fold, and the proportion of amphetamines-group treatment relative to all admissions tripled (from 25% to 73%).[19]

The Islamic Republic of Iran's recent rapid situation assessment of drug users in treatment centres, prisons, and of homeless persons found that approximately 3.6% of these groups of these groups primarily used crystalline methamphetamine, whereas no use was reported in 2004/5.[20] Iran has reported yearly increases in methamphetamine seizures, suggesting that availability is increasing.

In Europe, amphetamine use stable or decreasing; methamphetamine pockets persist

European amphetamines-group use appears stable, with West and Central European countries reporting stability or some decline. Perceived increases were subregional, with some increase in central Europe (Switzerland, Austria, Slovakia, Ukraine and the Republic of Moldova) and northern areas (Estonia, Latvia, Norway and Sweden).

Annual prevalence continues to decline in the United Kingdom, historically Europe's most significant amphetamine market. The annual prevalence rate of 1.0% in

16 Ministry of Health and Social Welfare, General situation of administrative measures against drug abuse (2007).

17 *Amphetamines and Ecstasy: 2008 Global ATS Assessment* (United Nations publication, Sales No. E.08.XI.12).

18 Treatment data are those provided by the public health system and do not include treatment provided by non-government and faith-based treatment providers.

19 Abu Madini M. S., Rahima S. I. A., Al-Zahrani M. A. & Al-Johi A. O. (2008). *Two decades of treatment seeking for substance use disorders in Saudi Arabia: Trends and patterns in a rehabilitation facility in Dammam.* Drug and Alcohol Dependence, 97(3), pp 231-236.

20 *Drug Control in 2008: Annual report and rapid situation assessment.* Islamic Republic of Iran, Drug Control Headquarters (Tehran, 2009).

Fig. 106: England and Wales: Annual prevalence of amphetamine use among the general population (aged 16-59), 1998-2008

Source: Kershaw, C., Nicholas, S., & Walker, A. (2008). *Crime in England and Wales 2007/08: Findings from the British Crime Survey and police recorded crime*. Home Office Statistical Bulletin (ISBN 978-1-84726-753-5)(London, 2008).

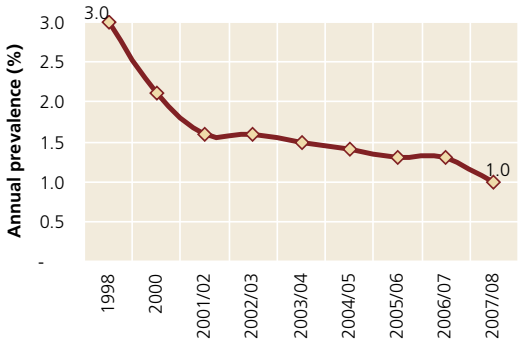
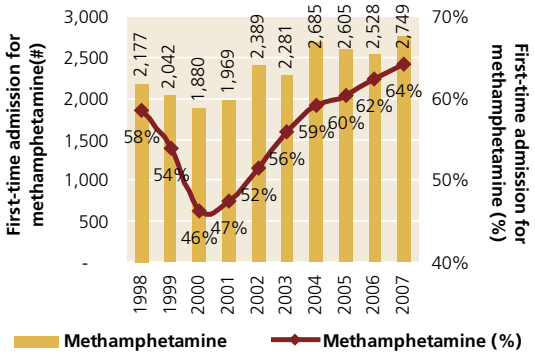


Fig. 107: Czech Republic first-time treatment demand for methamphetamine use, 1998-2007

Source: *The Czech Republic - 2007 Drug Situation (2008)*. Czech National Monitoring Centre for Drugs and Drug Addiction (Prague, 2008).



2007/08 in England and Wales is one third of the level one decade ago. However, the same reduction did not take place in Scotland, as rates of annual amphetamine use increased from 0.5% in 2000 to 2.2% in 2006.[21]

However, some countries in Eastern Europe have witnessed increases in amphetamines-group drug use. The Czech Republic is central to Europe's methamphetamine use, with most of the methamphetamine sourced from domestic clandestine laboratories. Although younger metropolitan users account for the majority, increased use is occurring in small towns and rural areas.[22] First-time treatment demand for methamphetamine continues to grow, accounting for nearly two thirds of all drug treatment. Many of the country's "problem drug users" inject methamphetamine.

Similarly, experts in the Ukraine are reporting increased injecting drug use, particularly ATS: crude home-made synthetic stimulants such as methamphetamine, methcathinone and cathinone are often shared by groups of young injecting drug users.[23]

South African ATS use shows signs of stabilization, but little is known about the rest of the continent

Most subregions of Africa lack basic data on ATS use, making it difficult to assess its extent or provide subregional estimates of use. However, ATS consumption has been reported in several African countries, including Burkina Faso, Côte d'Ivoire, Egypt, Ghana, Nigeria, Senegal, Sierra Leone and South Africa.

South Africa is one of the most significant methamphetamine markets in Africa and is one example of the rapid increase that can occur in ATS use. In Cape Town and the surrounding area, where most of the country's methamphetamine use currently occurs, demand for methamphetamine treatment was non-existent before 2002. By 2008, it accounted for 36% of treatment, although recent data suggest that use among youth may be on the decline.[24]

Egypt has some history of problematic synthetic stimulant use (Maxiton Forte[25]), however, recent seizure data show that little is currently seized. Recent research on ATS use suggests that 2.2% of state university students across the country had ever used stimulants, of whom approximately one third admitted current use.[26] In a 2005/06 national survey assessing drug use in eight

21 Brown, M. & Bolling, K. (2007). *Drugs misuse in Scotland: Findings from the 2006 Scottish crime and victimization survey.* BMRB Social Research, Edinburgh; National Advisory Committee on Drugs and Public Health Information and Research Branch (2008). Similar patterns were also noted for ecstasy-group substance use for Scotland and Northern Ireland.

22 *The Czech Republic - 2007 Drug Situation (2008).* Czech National Monitoring Centre for Drugs and Drug Addiction (Prague, 2008).

23 Pavlenko, V. (2008). *Peculiarities of stimulators using in Ukraine by the example of Donetsk region*, presented at the Global Methamphetamine Conference, Prague (September, 2008). International Charitable Foundation/ International HIV/AIDS Alliance in Ukraine; Zeziulin, O., Dumchev, K., & Schumacher, J. (2008). *Injection stimulant use and HIV risk in Ukraine*, presented at the Global Methamphetamine Conference, Prague (September, 2008).

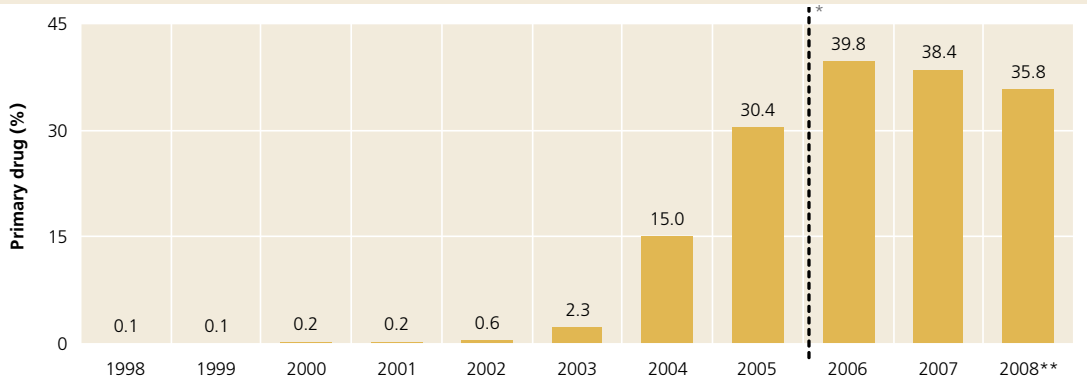
24 Plüddemann, A., Parry, C., Bhana, A., & Fourie, D. (2008). South African Community Epidemiology Network on Drug Use (SACENDU) Update (18 November 2008).

25 *Maxiton Forte*, was the trade name for a pharmaceutical preparation containing dexamphetamine, but is no longer manufactured. There have been indications that methamphetamine is being sold in Egypt's illicit markets under this brand name, however, to date there is still insufficient information about the actual content of this product and its source of manufacture.

26 Yousuf J. Egypt, *Use of Neuroactive Substances among university students: Preliminary Indicators*, National Council for the Control of Treatment and Addiction (Cairo, 2007).

Fig. 108: South Africa (Cape Town area): proportion of methamphetamine as primary substance for treatment, 1998-2008**

Source: South African Community Epidemiology Network on Drug Use (SACENDU). *Monitoring Alcohol & Drug Use Trends in South Africa (July 1996 – June 2008)*. Research brief, 11(2) (December 2008).



*Beginning mid-2006 totals included treatment in Cape Town, Atlantis and Worcester. **Figures represent data from the first half of 2008.

regions, 10% of the population aged 15 and older had ever used drugs, with 0.5% admitting to having ever used stimulants.[27]

The existence of unregulated (parallel) pharmaceutical markets[28] throughout Africa is believed to be a significant source of ATS.[29] These markets exist in large part due to limited access to health-care facilities, the high cost of drugs, a need for privacy, a general lack of public awareness, overly strict drug control regimes, and to meet consumer demand for drugs.[30] According to WHO, between 25-50% of medicines consumed in developing countries are counterfeit, and include ATS.[31] Burkina Faso has significant seizures of (non-specified) ATS pharmaceuticals termed 'médicaments de rue'. Although representative data on ATS use in Burkina Faso is non-existent, authorities in 2005 indicated that the most significant (and increasing) drugs of use were ATS. The same year, a report on psychiatric hospital treatment data in the capital Ouagadougou found that 28% of treatment episodes were primarily for amphetamines-group substances, the highest of any drug group apart from cannabis.[32]

In Nigeria, Africa's most populous country, methamphetamine use was previously reported in the northern parts of the country. More recent research however has identified significant use by young people (age 10-19; 6.7% lifetime prevalence) and university students (2.1% lifetime prevalence) in the south-western city of Ilorin and its surrounding catchment area.[33]

Methamphetamine use may be declining in parts of North America

North America continues to lead the western hemisphere in ATS use. Recent data, however, suggest declines, particularly in methamphetamine use in Canada and the USA. Since 1999, Canadian (Ontario)[34] and US students have reported declining methamphetamine use, but actual use is probably underreported as young people are increasingly using 'ecstasy' sourced from Canada which often contains methamphetamine as the primary psychoactive ingredient.[35]

Data from the USA household survey of the general population (12 and older) show that in 2007, the first notable decline in illicit amphetamines-group use took place, driven by declines in methamphetamine use.[36]

27 Ghaz I.H., *National Study of Addiction Prevalence of the Use of Drugs and Alcohols in Egypt (2005 – 2006)*, Studies of the National Centre for Social and Criminal Research Fund for the Control and Treatment of Addiction and Abuse (Cairo, 2007).

28 Unlicensed individuals and/or business entities that trade in drugs that they are not authorized or entitled to deal with or in contravention of the applicable laws, regulations and norms. These may include real or often counterfeit pharmaceuticals.

29 These may also include non-ATS stimulants (for example, slimming/diet pills and ephedrine).

30 International Narcotics Control Board (2007). *Report of the International Narcotics Control Board for 2006*. (United Nations publication Sales No. E.07.XI.11)

31 World Health Organization, "Counterfeit medicines", Fact Sheet No. 275, February 2006.

32 Ouedraogo, A. (2007). *Demandes de traitement pour abus de drogues au Burkina Faso*. Université de Ouagadougou.

33 Makanjuola A.B., Daramola T.O. & Obembe A.O. (2007). Psychoactive substance use among medical students in a Nigerian university. *World Psychiatry*, 6(2): 112–114; Abdulkarim A.A., Mokuolu O.A. & Adeniyi A. (2005). Drug use among adolescents in Ilorin, Nigeria. *Tropical Doctor*, 35(4), pp 225-228.

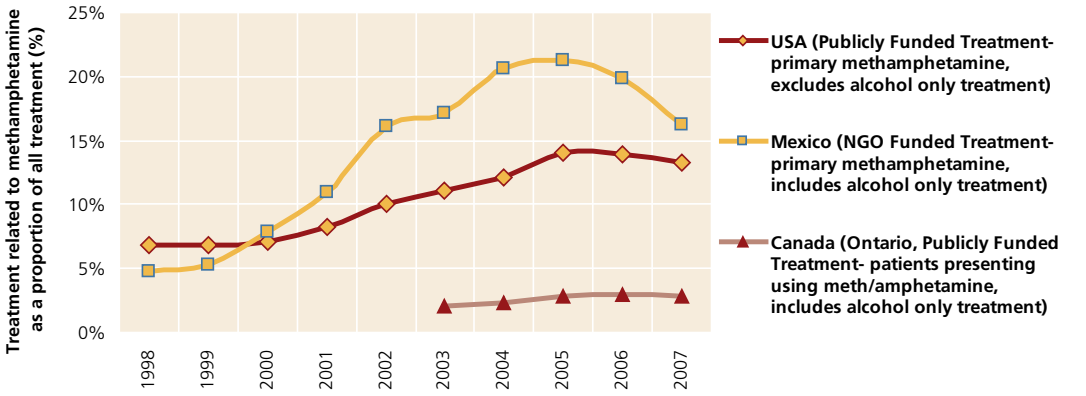
34 These data reflect Ontario students, which have drug use characteristics that are notably different from other provinces and territories. See Centre for Addiction and Mental Health. *Drug Use Among Ontario Students,* 1977-2007: Detailed OSDUHS findings (Toronto, 2007).

35 *Amphetamines and Ecstasy: 2008 Global ATS Assessment* (United Nations publication, Sales No. E.08.XI.12).

36 Office of National Drug Control Policy. *Making the drug problem smaller 2001-2008.* Executive Office of the President (Washington,

Fig. 109: Percent methamphetamine treatment in Canada, USA and Mexico (NGO): 1998 – 2007

Source: Substance Abuse and Mental Health Services Administration, Office of Applied Studies. Treatment Episode Data Set (TEDS) 2007; National Center of Epidemiology Surveillance and Disease Control, El Sistema de Vigilancia Epidemiológica de las Adicciones (SISVEA), report presented at NIDA's CEWG June 2008; Centre for Addiction and Mental Health (CAMH). Drug and Alcohol Treatment Information System (DATIS) Ontario, Canada (August 2008).

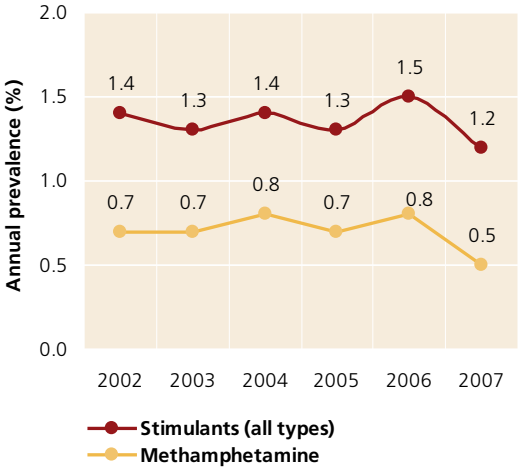


Treatment admissions data from Canada (Ontario)[37], the USA and Mexico suggest that there has been stabilization–at high levels–or perhaps varying degrees of decline in the proportions of patients with problematic methamphetamine use.[38]

Similar declines in methamphetamine use were reported in non-representative workplace drug testing, which recorded its lowest levels (0.1%) since 2002.[39] However, stimulant substitution may be occurring in the USA, as amphetamines-group stimulants overall continued to climb among the general workforce and are at significantly higher levels than a decade ago. This is consistent with increases in the use of psychostimulants such as methylphenidate[40] in the USA, which have increased dramatically since the 1990s.[41]

Fig. 110: USA: Annual prevalence of stimulants and methamphetamine use among the population (12 and older), 2002-2007

Source: Substance Abuse and Mental Health Services Administration. *Results from the 2007 National Survey on Drug Use and Health: National Findings*. Office of Applied Studies, NSDUH Series H-34, DHHS Publication No. SMA 08-4343 (Rockville, Maryland, 2008).



Risks are increasing in Latin America

Experts in Mexico and the countries on Mexico's southern border (for example, Guatemala and El Salvador) continue to indicate worsening ATS use problems, possibly related to shifts in manufacture.[42] Further south, experts from Argentina, Brazil, Ecuador and Paraguay

DC, 2009).

37 The data for Canada (Ontario) represent clients that may report up to five presenting problem substances at admission (of which methamphetamine may not necessarily be the *primary* problem drug of use). Data include clients presenting for both amphetamine or methamphetamine (the methamphetamine category was added in June 2006). Data are reported on a fiscal year, from April – March.

38 Caution should be exercised as these system are funded differently and data are captured differently. Additionally, while decreases were noted in methamphetamine as the primary drug for the USA and Mexico, methamphetamine is commonly associated with poly-drug users, thus secondary or tertiary methamphetamine use may br masked.

39 Quest Diagnostics, *Drug Testing Index* (May 2009); US Department of Justice. (2008) National Methamphetamine Threat Assessment 2009 (National Drug Intelligence Center, Product No. 2008-Q0317-006, December 2008); Office of National Drug Control Policy, *Making the drug problem smaller 2001-2008*. Executive Office of the President (Washington, DC, 2009).

40 Methylphenidate is an amphetamine-type stimulant typically prescribed for Attention Deficit Disorder (ADD) in youth. Substance Abuse and Mental Health Services Administration, Office of Applied Studies. *The DAWN Report–Emergency Department Visits Involving ADHD Stimulant Medications Issue 29, 2006* (Rockville, Maryland, 2006).

41 International Narcotics Control Board (2009). *2008 Psychotropic Substances: Statistics for 2007* (United Nations publication Sales No. E/F/S.09.XI.3)

42 Annual Reports Questionnaire.

also perceive increasing ATS use.[43] Historically, stimulants originated primarily from licit channels, often through over-prescription or unregulated parallel markets. In 2007, Argentina and Brazil had the second and third highest calculated rates of consumption of Schedule IV stimulants in the world.

Between 2001 and 2005, Brazil reported that lifetime use of amphetamines-group ssubstances in the general population in urban areas more than doubled from 1.5% to 3.2%, driven in part by comparatively high secondary student use (3.4%).[44] ATS consumption rates tend to be significantly higher for youth than for the general population. For example, the annual prevalence rates for the amphetamines-group substances for Colombian secondary school students was 3.5% in 2004/05, a rate seven times that of the estimate for the general population in 2005. (see special features section for further information)

Oceania: Use high, though reductions may be occurring; island nations under threat

Amphetamines-group use in Oceania may be declining overall. However, the trend reflects only the populations of Australia and New Zealand.[45] Australian household surveys (aged 14 and above) appear to show a steady decline of methamphetamine use from an annual prevalence rate of 3.7% in 1998 to 2.3% in 2007.[46] New Zealand household surveys (aged 15 to 45) showed a similar decrease since the peak of 2001.

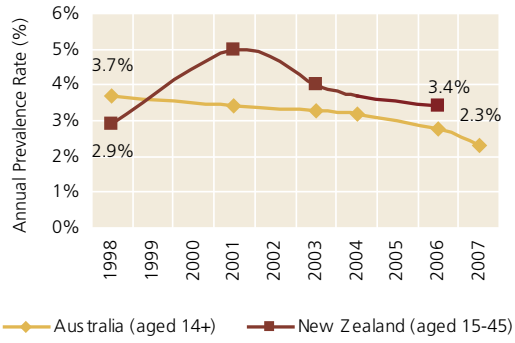
Both countries also collect methamphetamine use data on recent detainees (arrestees) through various drug monitoring programs.[47] In Australia, there has been a decline of detainees testing positive for methamphetamine to 24% in 2007, with little change in New Zealand levels (which are half of those among Australian detainees).[48]

While the overall numbers suggest a possible decline over the last several years, use by problematic drug users and the associated impacts on public health may be increasing. For example, in Australia, data from detainees suggest increasing use of high potency crystalline methamphetamine and an increase in injecting methamphetamine.[49] New Zealand's frequent methamphetamine users were more likely to have used an ambulance and/or hospital emergency room services, or have contacted a drug counsellor or general practitioner in relation to their problematic methamphetamine use in 2007, over prior years.[50]

Although UNODC receives no systematic data from the other Oceania countries, there have been sporadic reports of amphetamines-group substances being used throughout the many island nations. For example, crystalline methamphetamine use has been reported in several cities of Papua New Guinea. Moreover, a large number of traffickers were recently sentenced for moving significant amounts of methamphetamine into French Polynesia.[51] Of the 12 countries worldwide which are not yet parties to the *1988 Convention Against Illicit Traffic in Narcotic Drugs and Psychotropic Substances*, seven are in the Oceania region, leaving the region vulnerable to manufacturing, trafficking, and use.

Fig. 111: Australia/New Zealand annual prevalence of amphetamines-group use, 1998-2007

Source: Australian Institute of Health and Welfare 2008. 2007 National Drug Strategy Household Survey: Drug statistics, 22. Canberra: AIHW. Wilkins C. & Sweetsur P. (2008) Trends in population drug use in New Zealand: Findings from national household surveying of drug use in 1998, 2001, 2003 and 2006. New Zealand Medical Journal, 121, 61-71.



43 Only experts from the Dominican Republic noted a perceived decline in ATS use.

44 *II Levantamento Domiciliar Sobre o Uso de Drogas Psicotrópicas no Brasil: Estudo Envolvendo as 108 Maiores Cidades do País 2005*. CEBRID - Centro Brasileiro de Informação sobre Drogas Psicotrópicas: UNIFESP - Universidade Federal de São Paulo. (São Paulo, Brazil, 2006).

45 There have been only sporadic ARQ reports from a small number Pacific Island Member States over the last decade.

46 It must be noted that the underlying methodology for the surveys changed substantially between 1998 and the 2001, thus a direct comparison of the household survey data in Australia could be potentially misleading.

47 Drug Use Monitoring in Australia (DUMA) and the New Zealand Arrestee Drug Use Monitoring (NZ-ADAM) program assess drug use via urine analysis of recent arrestees in select sites.

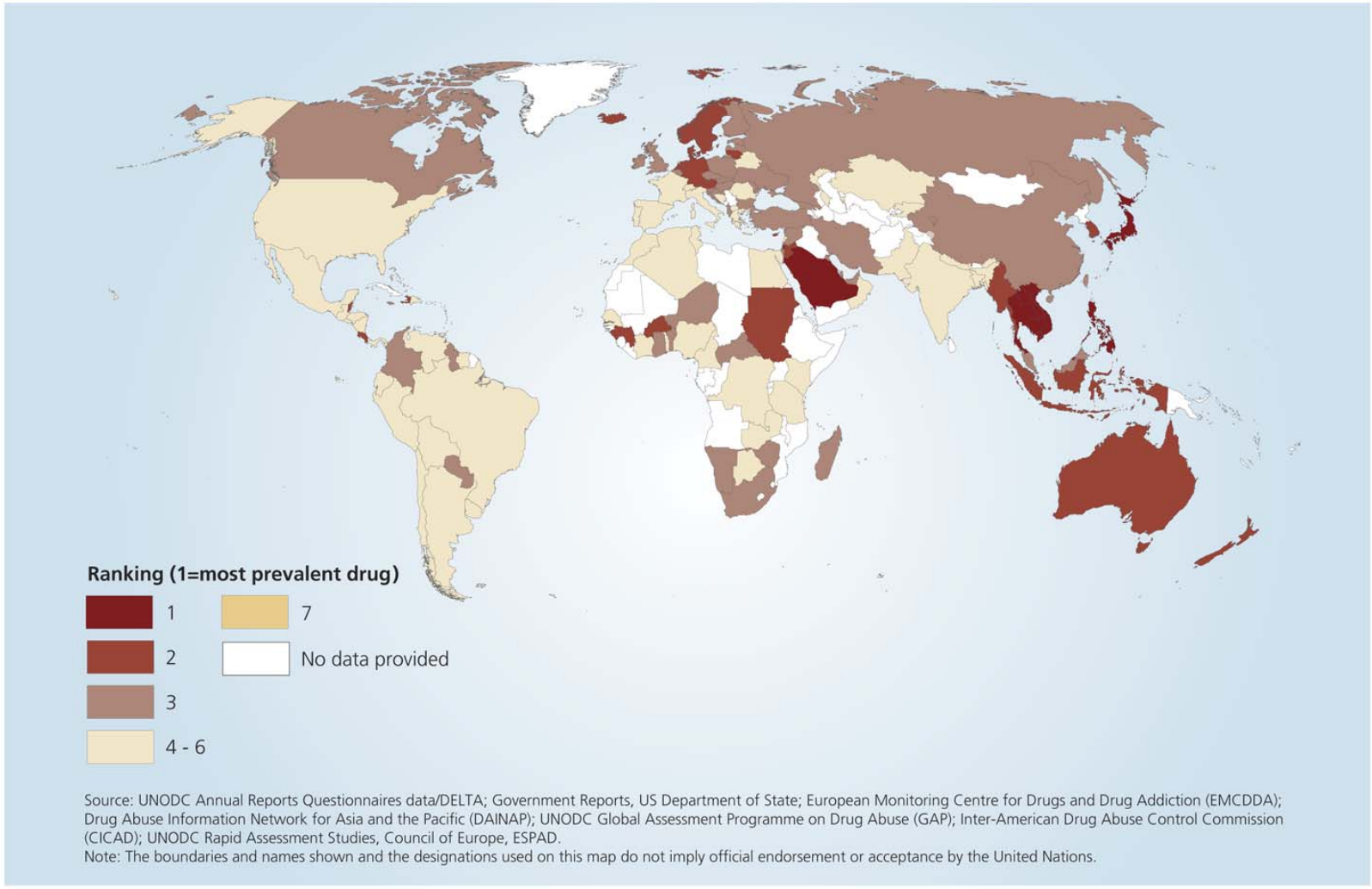
48 Includes the first two quarters of 2007 only. There were however, significant increases in positive tests for amphetamine reported (unweighted multi-site average, 2.7% in 2005 to 13.5% in 2007), possibly reflecting some shift in ATS use.

49 National Alcohol and Drugs Research Centre, University of New South Wales - presentation to UNODC, *'Australian Drug Monitoring Systems: Overview of IDRS and EDRS'* (Sydney, Australia, 2007).

50 Wilkins, C., Girling, M. & Sweetsur, P. *Recent Trends in Illegal Drug use in New Zealand, 2005-2007: Findings from the 2005, 2006 and 2007 Illicit Drug Monitoring System (IDMS)*. Centre for Social and Health Outcomes Research and Evaluation, Massey University (Auckland, New Zealand, 2008).

51 UNODC *Global SMART Update 2009, Volume 1* (March).

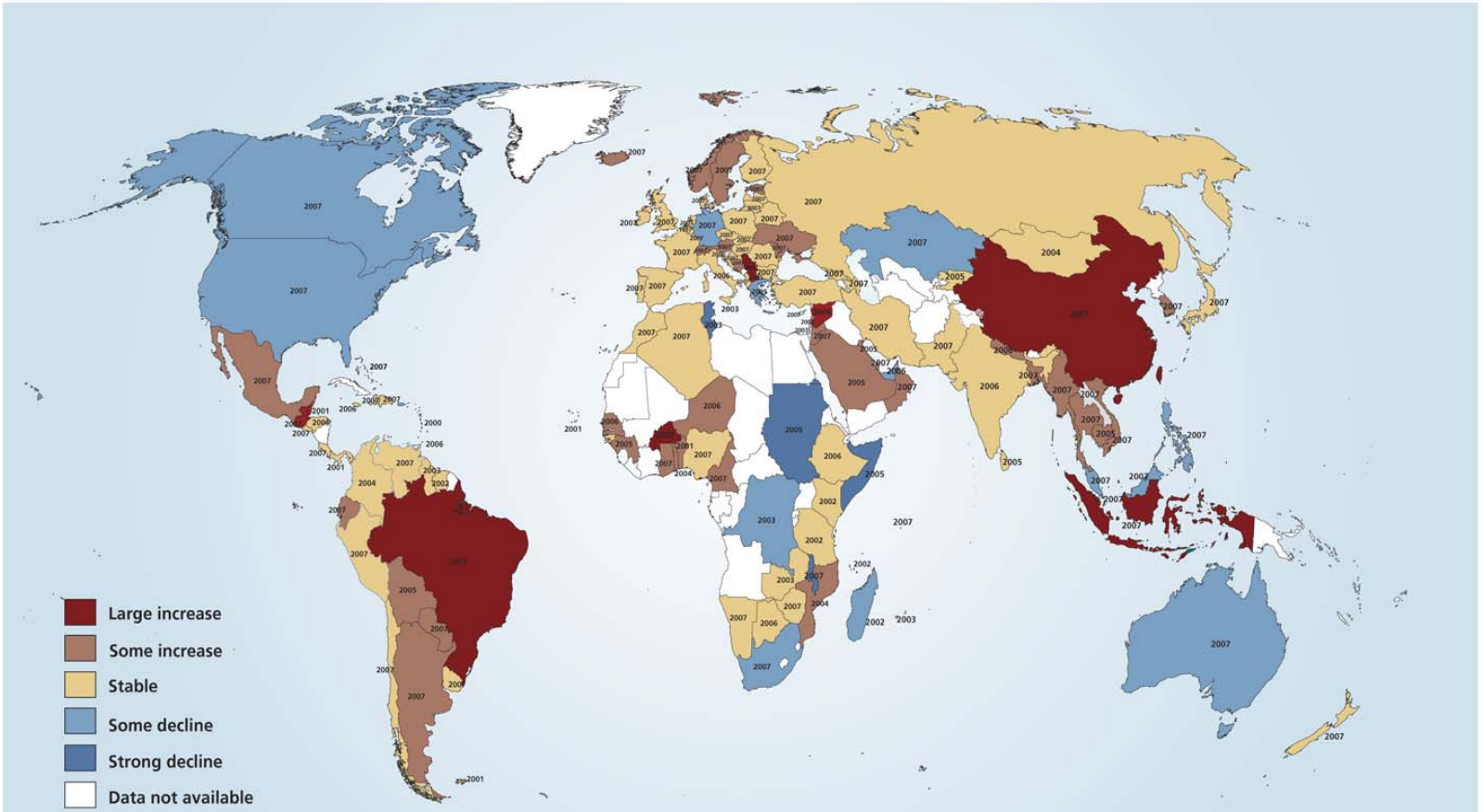
Map 23: Ranking of amphetamine-type stimulants in order of prevalence in 2007 (or latest year available)



Source: UNODC Annual Reports Questionnaires data/DELTA; Government Reports, US Department of State; European Monitoring Centre for Drugs and Drug Addiction (EMCDDA); Drug Abuse Information Network for Asia and the Pacific (DAINAP); UNODC Global Assessment Programme on Drug Abuse (GAP); Inter-American Drug Abuse Control Commission (CICAD); UNODC Rapid Assessment Studies, Council of Europe, ESPAD.

Note: The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.

Map 24: Changes in the use of "amphetamines" (methamphetamines, amphetamines and related substances), 2008 (or latest year available)

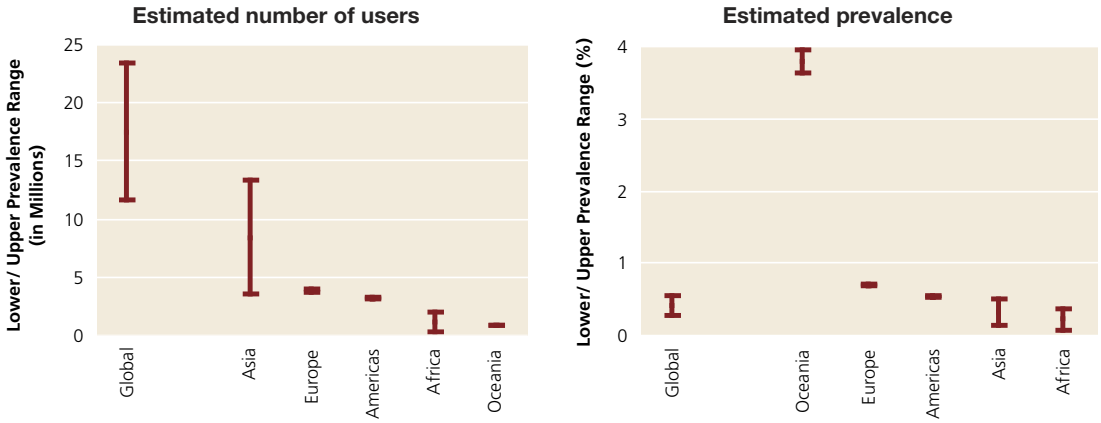


* Primary souce: UNODC Annual Reports Questionnaires. For a few countries, UNODC has based its perception on supplementary drug trend information derived from or reported in national household surveys , United States Department of State (Bureau for International Narcotics and Law Enforcement Affairs), International Narcotics Control Strategy Report, Law Enforcement Reports, Meetings of Heads of Law Enforcement Agencies (HONLEA), UNODC Illicit Drug Trends publications for various countries, Drug Abuse Information Network for Asia and the Pacific (DAINAP), UNODC Global Assessment Programme on Drug Abuse (GAP), UNODC Data for Africa Project.

Note: The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.

Fig. 112: Estimated *ecstasy-group* users, by region (in numbers and annual prevalence)

Sources: UNODC, Annual Reports Questionnaire; Government reports; reports of regional bodies; and UNODC estimates.



Ecstasy-group drug consumption

Globally, ecstasy-group[52] substances (primarily MDMA) are consumed by between 11.6-23.5 million people aged 15-64, or 0.3-0.5% of the population. As a proportion of the population, Oceania accounts for the highest annual prevalence of any region (3.6-4.0% of the general population), but has the fewest users in absolute numbers. The region with the highest number of users is Asia, with an estimated range between 3.6-13.6 million annual users, aged 15-64. Most are living in the East and South-East Asia subregion. Due to a lack of country-level prevalence estimates, subregional estimates cannot be calculated for South Asia, Central Asia, or the Near and Middle East.

Ecstasy-group use concentrated in Western Europe and North America

UNODC estimates that there are about 2.6 million ecstasy-group users in North America, with the majority living in the USA. North America's annual prevalence for the general population is about 0.9%, similar to that of West and Central Europe. There are between 3.8 and 4.0 million ecstasy-group users in Europe. Drug use in West and Central Europe appears largely stable but continues to increase in several East and South-East European countries, particularly among young people.

Expert perceptions: Growth in ecstasy-group drug use in developing countries outpacing that of developed countries

The unweighted expert perception trends between 1998 and 2007 reflect continued increases in ecstasy-group use.[53] Country experts in developed countries have perceived a stable or slightly declining trend since 2004, about the time when developing countries (particularly in Eastern Europe and Latin America) perceived more frequent and more significant increases in their use.[54] In 2007, experts from 63 Member States responded, with 32 identifying a stable ecstasy-group trend over 2006, and 9 identifying a decrease.[55] Decreases in developed countries were driven in part by North America and West and Central Europe.

The most recent student surveys in the USA (2008) and Canada (Ontario, 2007) show that little change in annual prevalence of ecstasy-group use has occurred since 2003. However, in the USA and Canada 'ecstasy' is sourced primarily from Canadian-based operations, which increasingly cut it with other psychoactive ingredients. (see special features section for further information)

52 Reports show that unbeknown to many ecstasy users, what is sold to them as ecstasy (MDMA) is often a combination of many psychoactive substances, such as methamphetamine and ketamine. *Amphetamines and Ecstasy: 2008 Global ATS Assessment* (United Nations publication, Sales No. E.08.XI.12).

53 Expert perception data is derived from the ARQ, and is unweighted. The following points are allocated if experts perceive: 'strong increase' 2; 'some increase': 1; stable: 0; 'some decline' -1; 'strong decline' -2. If all countries had reported 'some increase', the global trend line would have increased by one point each year and would have reached 109 by 2007.

54 The criteria to calculate subregional estimates include recent representative prevalence estimates (since 1998) from at least two Member States that combined account for at least 20% of the subregion's population aged 15-64.

55 Increases and decreases were coded from strong increase/decrease or some increase/decrease, and represent the unweighted number of Member States responding.

Table 25: Estimated number of people who used ecstasy at least once in the past year and proporton of population aged 15-64, by region, 2007

Sources: Annual Reports Questionnaire data, various Government reports, reports of regional Bodies, UNODC estimates

Region/Subregion (Ecstasy-group)	Estimated number of users annually (lower)	Estimated number of users annually (upper)	Percent of population age 15-64 (lower)	Percent of population age 15-64 (upper)
Africa	340,000	1,870,000	0.1	0.4
North Africa		Subregional estimate cannot be calculated		
West and Central Africa		Subregional estimate cannot be calculated		
Eastern Africa		Subregional estimate cannot be calculated		
Southern Africa	210,000	400,000	0.2	0.4
Americas	3,130,000	3,220,000	0.5	0.5
North America	2,560,000	2,560,000	0.9	0.9
Central America	20,000	30,000	0.1	0.1
The Caribbean	30,000	130,000	0.1	0.5
South America	510,000	510,000	0.2	0.2
Asia	3,550,000	13,580,000	0.1	0.5
East/South East Asia	2,250,000	5,950,000	0.2	0.4
South Asia		Subregional estimate cannot be calculated		
Central Asia		Subregional estimate cannot be calculated		
Near and Middle East		Subregional estimate cannot be calculated		
Europe	3,750,000	3,960,000	0.7	0.7
Western/Central Europe	2,110,000	2,120,000	0.8	0.8
East/South East Europe	1,640,000	1,830,000	0.6	0.6
Oceania	810,000	880,000	3.6	4.0
Global	**11,580,000**	**23,510,000**	**0.3**	**0.5**

Fig. 113: Ecstasy-group use trends as perceived by experts, by OECD and non-OECD countries, 1998-2007 (baseline: 1998 = 100)[56]

Note: Ecstasy-group trends were systematically collected only as of 2000, and thus pre-2000 data represent ATS data used as a proxy. Sources: UNODC, Annual Reports Questionnaire Data, UNODC Field Offices, UNODC's Drug Use Information Network for Asia and the Pacific (DAINAP).

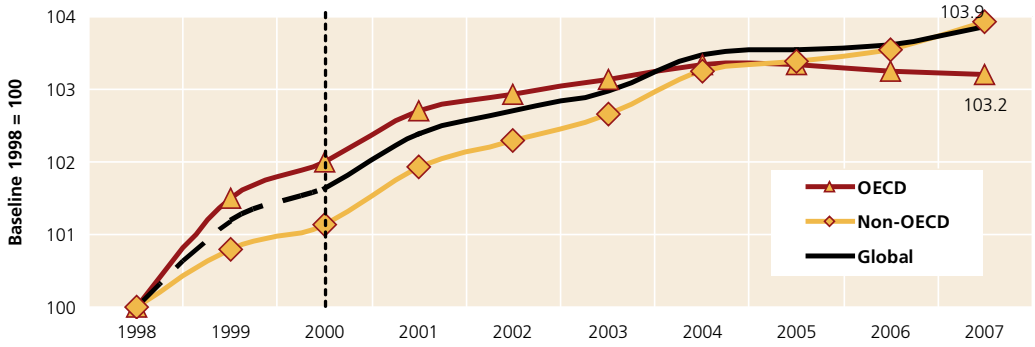


Table 26: Expert perception of changing ecstasy-group use, by region: 2007

Sources: UNODC, Annual Reports Questionnaire Data

Region	Member States responding	Use problem increased*	Percent use problem increased	Use problem stable	Percent use problem stable	Use problem decreased*	Percent use problem decreased
Europe	30	11	37%	15	50%	4	13%
Americas	13	3	23%	10	77%	0	0%
Asia	15	6	40%	5	33%	4	27%
Oceania	0	0		0		0	
Africa	5	2	40%	2	40%	1	20%
Global	**63**	**22**	**35%**	**32**	**51%**	**9**	**14%**

* Identifies increases/decreases ranging from either some to strong, unweighted by population.

Increases still reported in South American countries

In Latin America, only Colombia has annual prevalence rates of ecstasy-group use similar to North America. The rate among urban secondary students in Colombia was 3.0% in 2004/05.[57] This is nearly double the rate (1.6%) from surveys of secondary school students conducted just three years earlier.[58] Prior to 2001, there were no indications of measurable ecstasy-group drug use among students.

Stabilization in large parts of Europe, with possible shifts detected

Data continue to suggest stabilization in Europe, due in large part to stable use in West and Central Europe. Most notable are the trends from the UK, for many years Europe's largest ecstasy market, and Spain. Beginning around 2001, annual prevalence trends showed decreases in the general population in England and Wales (aged 16-59) and Spain (aged 15-64).

Between 1999 and 2007, European students (aged 15-16) reported increased lifetime use of ecstasy-group substances. However, there were diverging trends by subregion. Students in West and Central Europe[59] have reported relatively stable unweighted lifetime use since 2003. In contrast, students from Eastern Europe[60] reported nearly 1.5% higher lifetime prevalence rates than their West and Central European counterparts. (see Special Features section for further information)

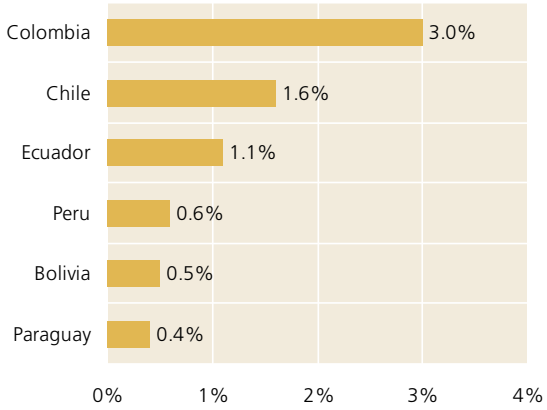
Consistent with these data, expert perception in 2007 showed 11 experts reporting increasing ecstasy-group use, of which nearly two thirds were from East and South-East European countries.

Worsening ecstasy situation in parts of Asia may reflect other drugs

For 2007, 40% of experts perceived a growing ecstasy-group use problem in Asia. Of these, most were situated in East and South-East Asia, including China, Indonesia, Thailand and Viet Nam. However, like other regions, a lack of forensic capacity means that it is not known whether ecstasy-group substances actually contain MDMA or other psychoactive ingredients. "Club drugs" are increasingly being replaced by other substances, such as ketamine.[61] For example, in Hong Kong, China, the market has changed rapidly and dramatically since 2000, as ketamine–nearly unheard of in 1998–has supplanted ecstasy use. The number of reported drug registry cases for ketamine doubled between 2005 and 2007, and now accounts for 29% of all newly reported cases in Hong Kong, China. Ketamine use has been noted in neighbouring areas and follows reports of significant illicit manufacturing operations and seizures throughout the subregion.

Fig. 114: Annual prevalence of ecstasy-group use among secondary students in select South American countries (rank ordered), 2004/05

Source: Oficina de las Naciones Unidas contra la Droga y el Delito (ONUDD) y la Comisión Interamericana para el Control del Abuso de Drogas (CICAD/OEA) (2006). *Jóvenes y drogas en países sudamericanos: Un desafío para las políticas públicas:* Primer estudio comparativo sobre uso de drogas en población escolar secundaria de Argentina, Bolivia, Brasil, Colombia, Chile, Ecuador, Paraguay, Perú y Uruguay. (Lima, 2006).



56 Ecstasy-group trends were systematically collected only as of 2000. There are indications from several countries that late 1990s ATS and ecstasy-group trends followed similar patterns, and thus pre-2000 data represent ATS data used as a proxy.

57 Oficina de las Naciones Unidas contra la Droga y el Delito (ONUDD) y la Comisión Interamericana para el Control del Abuso de Drogas (CICAD/OEA) (2006). *Jóvenes y drogas en países sudamericanos: Un desafío para las políticas públicas:* Primer estudio comparativo sobre uso de drogas en población escolar secundaria de Argentina, Bolivia, Brasil, Colombia, Chile, Ecuador, Paraguay, Perú y Uruguay (Lima, September 2006).

58 The Inter-American Drug Abuse Control Commission. *Multilateral Evaluation Mechanism (MEM): Colombia country report 2001-2002.* (Organization of American States (OAS), 2008).

59 Students of West and Central Europe include: Austria, Belgium (Flanders), Cyprus, Denmark, Faroe Islands, Finland, France, Germany (6 states), Greece, Greenland, Iceland, Ireland, Isle of Man, Italy, Malta, Netherlands, Norway, Portugal, Sweden, Switzerland and the United Kingdom.

60 Students of Eastern Europe include: Bulgaria, Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Russian Federation, (Moscow), Slovakia, Slovenia, and the Ukraine.

61 Ketamine is a licit pharmaceutical illicitly used as a hallucinogen most often found in powder or liquid form that is increasingly encountered on ATS markets, either in connection with the "club-drug" scene, or found as an active ingredient in what is sold on illicit markets as 'ecstasy'. Ketamine is not currently under international control.

Fig. 115: England and Wales (UK) and Spain: Annual prevalence of ecstasy-group use among the general population, 1998-2007/08

Source: Kershaw, C., Nicholas, S., & Walker, A. (2008). *Crime in England and Wales 2007/08: Findings from the British Crime Survey and police recorded crime*. Home Office Statistical Bulletin (ISBN 978-1-84726-753-5) (London, 2008); Informe de la encuesta domiciliaria sobre alcohol y dogas en España (EDADES) 2007/08. Delegación del gobierno para el plan nacional sobre drogas. (Madrid, 2008).

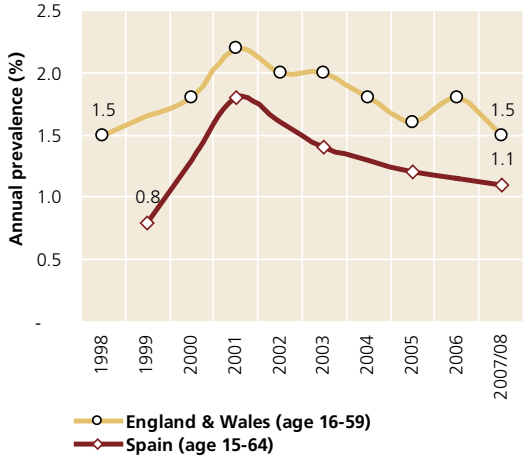
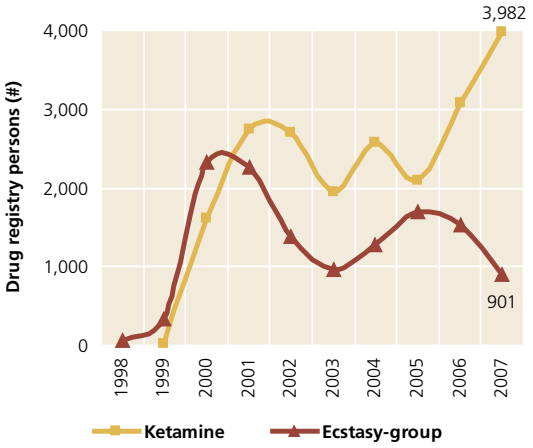


Fig. 116: Hong Kong, China ecstasy-group and ketamine drug registry cases, 1998-2007

Source: Central Registry of Drug Abuse. Narcotics Division (ND), Security Bureau, the Hong Kong Special Administrative Region, China.



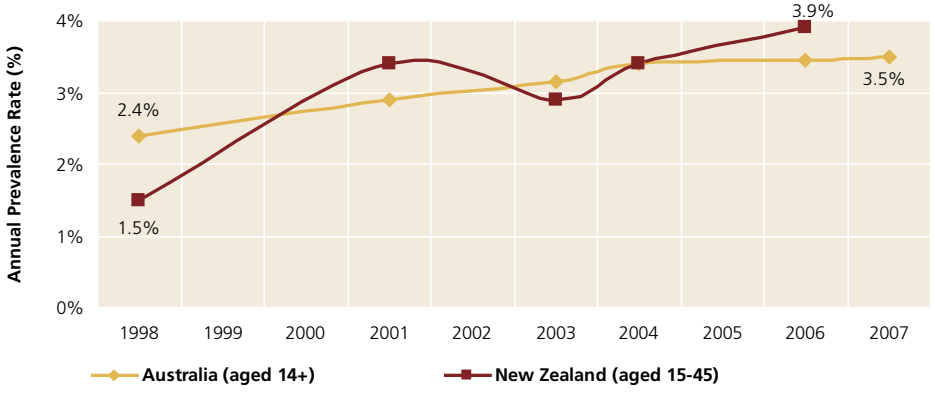
High use levels in Oceania, but the ecstasy used may vary

Given that the Australian population comprises the majority of population in Oceania, what occurs in Australia de facto "drives" trends in Oceania. Both Australia and New Zealand have reported increased annual prevalence of ecstasy-group among the general population since 1998, and the most recent studies find that their rates reflect some of the highest reported annual prevalence of use. Annual use in Australia remained stable since 2004, contrary to increases in New Zealand.

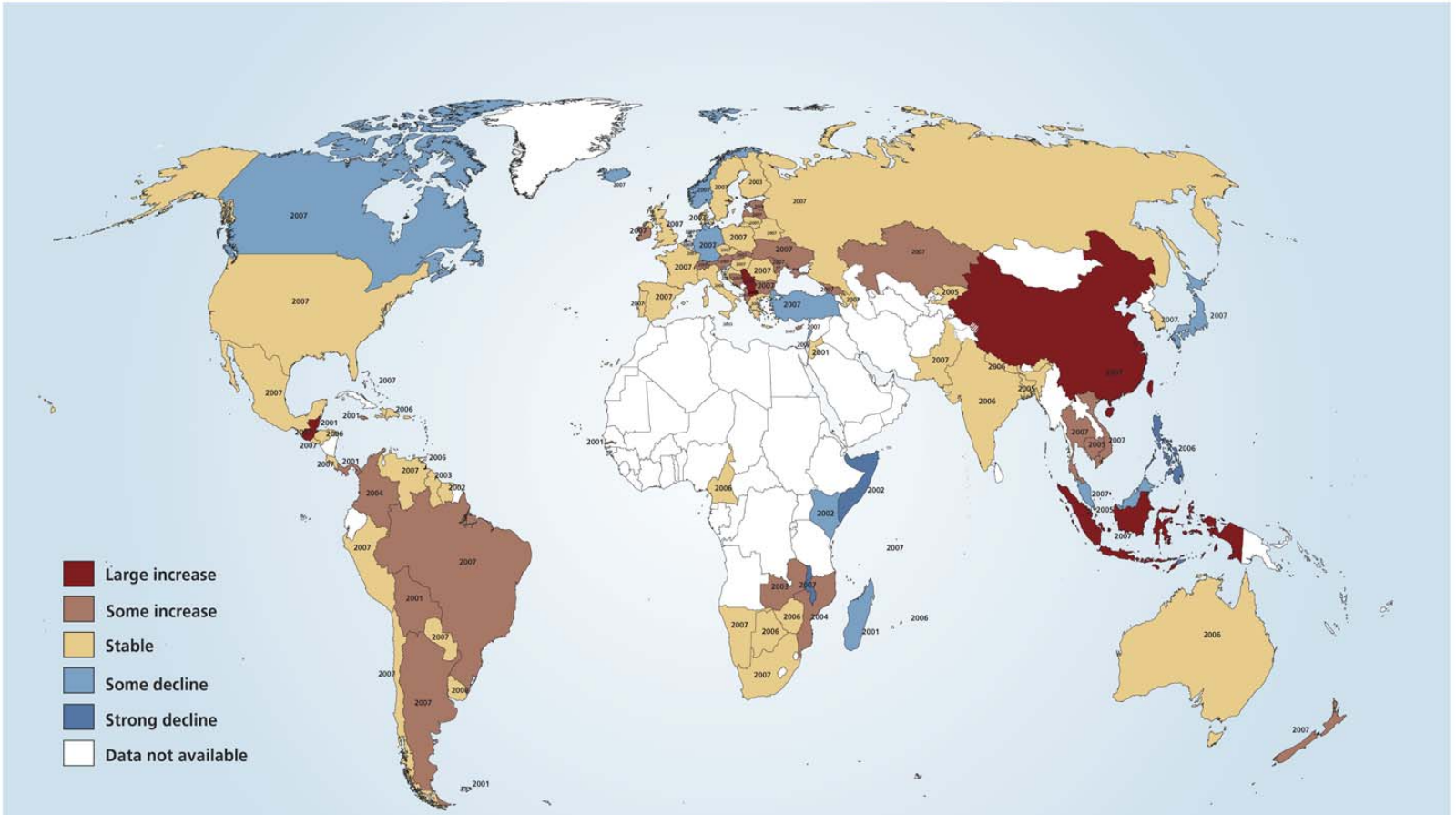
However, due to some of New Zealand's apparent increase may not be of MDMA-containing pills. Until 2008, New Zealand had a substantial legal "party-pills" market which sold, inter alia, benzylpiperazine (BZP), a drug with effects similar to MDMA (ecstasy). A 2006 household survey found that 15.3% of New Zealanders (aged 13-45) had used "party-pills" in the past year. In some cases these "party-pills" were sold as "ecstasy".

Fig. 117: Australia and New Zealand: Annual prevalence of ecstasy use, 1998-2007

Source: Australian Institute of Health and Welfare 2008. *2007 National Drug Strategy Household Survey: detailed findings*. Drug statistics series no. 22. Cat. no. PHE 107. Canberra: AIHW. Wilkins C. & Sweetsur P. (2008) *Trends in population drug use in New Zealand: Findings from national household surveying of drug use in 1998, 2001, 2003 and 2006*. New Zealand Medical Journal, 121, 61-71. A216



Map 25: Changes in the use of ecstasy (MDA, MDMA), 2007 (or latest year available)



* Primary source: UNODC Annual Reports Questionnaires. For a few countries, UNODC has based its perception on supplementary drug trend information derived from or reported in national household surveys, United States Department of State (Bureau for International Narcotics and Law Enforcement Affairs), International Narcotics Control Strategy Report, Law Enforcement Reports, Meetins of Heads of Law Enforcement Agencies (HONLEA), UNODC Illicit Drug Trends publications for various countries, Drug Abuse Information Network for Asia and the Pacific (DAINAP), UNODC Global Assessment Programme on Drug Abuse (GAP), UNODC Data for Africa Project.

Note: The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.

2. Confronting unintended consequences: DRUG CONTROL AND THE CRIMINAL BLACK MARKET

2.0 Confronting unintended consequences: Drug control and the criminal black market

Last year's *World Drug Report* reviewed 100 years of drug control efforts, documenting the development of one of the first international cooperative ventures designed to deal with a global challenge. This pioneering work brought together nations with very different political and cultural perspectives to agree on a topic of considerable sensitivity: the issue of substance abuse and addiction. Despite wars, economic crises, and other cataclysmic events of state, the global drug control movement has chugged steadily forward, culminating in a framework of agreements and joint interventions with few precedents or peers in international law.

Today, a number of substances are prohibited in the domestic legislation of almost every country. As discussed below, this unanimity has created a bulwark shielding millions from the effects of drug abuse and addiction. In the past, many of these substances were legally produced and, in some cases, aggressively marketed, to devastating effect. The collective nations of the world have agreed that this state of affairs was unacceptable, and have created an international control system that allows crops such as opium poppy to be produced for medical use, with very little diversion to the illicit market.

Despite this achievement, drug control efforts have rarely proceeded according to plan. There have been reversals and set-backs, surprising developments and unintended consequences. Traffickers have proven to be resilient and innovative opponents and cultivators difficult to deter. The number, nature, and sources of controlled substances have changed dramatically over the years. None of this could have been predicted at the outset.

But then, very little has been simple or smooth about developments in international affairs over the last century. Other international problems – including poverty, war, weapons proliferation and infectious disease – have defied early projections of a swift resolution. Some efforts have been more successful than others, but, in all cases, the learning process could be described as "challenging". Today, the enterprise of global coordination and cooperation remains a work in progress. Tremendous gains have been made, however, and the need for collaborative solutions to the problems facing us all is greater than ever before.

2.1 Why illicit drugs must remain illicit

Oddly, of all areas of international cooperation, drug control is uniquely subject to calls that the struggle should be abandoned. Despite equally mixed results in international interventions,[1] no one advocates accepting poverty or war as inevitable. Not so with drugs, where a range of unintended consequences have led some to conclude that the only solution is to legalise and tax substances like cannabis, cocaine, ecstasy, methamphetamine, and heroin.

The strongest case against the current system of drug control is not the financial costs of the system, or even its effectiveness in reducing the availability of drugs.[2] The strongest case against drug control is the violence and corruption associated with the black market. The main problem is not that drug control efforts have failed to eliminate drug use, an aspirational goal akin to the elimination of war and poverty. It is that in attempting to do so, they have indirectly enriched dangerous criminals, who kill and bribe their way from the countries where drugs are produced to the countries where drugs are consumed.

Of course, the member states of the United Nations created the drug conventions, and they can modify or annul them at will. But the Conventions would have to be undone the way they were done: by global consensus. And to date, they are very few international issues on which there has been so much positive consensus as drug control. Drug control was the subject of broad-based international agreements in 1912, 1925, 1931, 1936, 1946, 1948, and 1953, before the creation of the standing United Nations Conventions in 1961, 1971, and 1988. Nearly every nation in the world has signed on to these Conventions.[3]

Nonetheless, there remains a serious and concerned group of academics and civil society organisations who feel the present system causes more harm than good. Plans for drug "legalisation" are diverse, and often fuzzy on the details, but one of the most popular alternative models involves taxation and control in a manner similar to tobacco and alcohol.[4] This approach has appeal of ideological consistency, since all these addictive substances are treated in the same way.

The practice of banning certain addictive substances

Fig. 1: Global deaths related to substance use in 2002

Source: World Health Organisation[7]

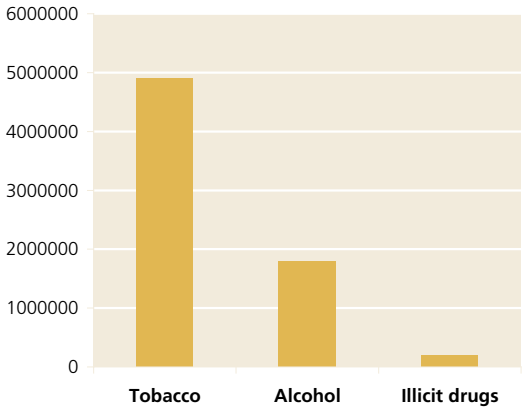
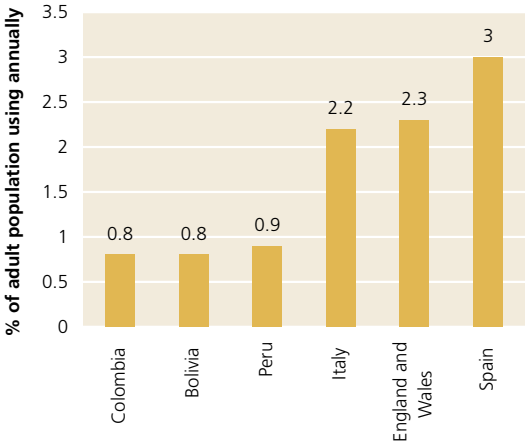


Fig. 2: Annual cocaine prevalence

Source: 2009 *World Drug Report*



while permitting and taxing others is indeed difficult to defend based on the relative harmfulness of the substances themselves. Legal addictive substances kill far more people every year than illegal ones – an estimated 500 million people alive today will die due to tobacco.[5] But this greater death toll is not a result of the licit substances being pharmacologically more hazardous than the illicit ones.[6] This greater death toll is a direct result of their being legal, and consequently more available. Use rates of illicit drugs are a fraction as high as for legal addictive drugs, including among those who access the legal drugs illegally (i.e. young people). If currently illegal substances were made legal, their popularity would surely increase, perhaps reaching the levels of licit addictive substances, increasing the related morbidity and mortality.

Is the choice simply one of drug-related deaths or drug-market-related deaths? Some palliative measures would be available under a system of legalisation that are not available today. If drugs were taxed, these revenues could be used to fund public health programmes aimed at reducing the impact of the increase in use. Addicts might also be more accessible if their behaviour were decriminalised. With bans on advertising and increasingly restrictive regulation, it is possible that drug use could be incrementally reduced, as tobacco use is currently declining in most of the developed world.

Unfortunately, most of this thinking has indeed been restricted to the developed world, where both treatment and capacity to collect taxes are relatively plentiful. It ignores the role that global drug control plays in protecting developing countries from addictive drugs. Without consistent global policy banning these substances, developing countries would likely be afflicted by street drugs the way they are currently afflicted by growing tobacco and alcohol problems.

In most developing countries, street drugs are too scarce and expensive for most consumers. They are scarce and expensive because they are illegal. Today, traffickers concentrate on getting almost all of the cocaine and heroin produced to high-value destinations, placing the burden of addiction on those well suited to shoulder it, at least financially. If these pressures were removed, lower value markets would also be cultivated with market-specific pricing, as they presently are for most consumer goods.

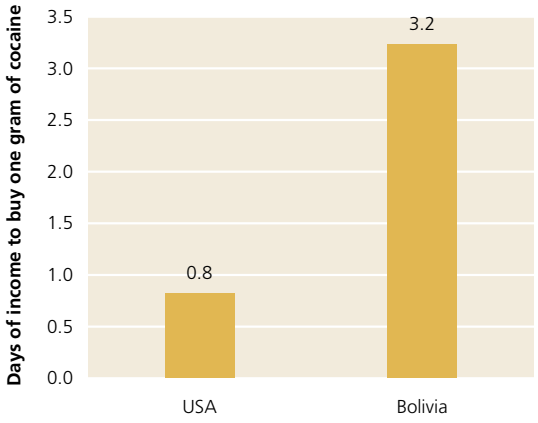
For example, cocaine use in the countries where cocaine is actually produced is less than half as high as in many European countries or the United States. This could easily change. Bolivia is a poor country where 42% of the population lives on less than US$2 per day[8] and which produces about 10% of the global cocaine supply. According to reported figures, cocaine in Bolivia was US$9 per gram in 2005, about 10% of the price in the United States. But GDP per capita was 42 times higher in the US than in Bolivia, so the price was effectively four times higher in Bolivia.[9]

In contrast, 27% of the adult population of Bolivia smokes cigarettes daily.[10] A pack of cigarettes was priced at just US$0.62 at official exchange rates in 2006, so even the poor find an imported addictive substance more affordable than the locally-produced one.[11] Bolivia is not unique in this respect: in many poor countries, more than 10% of household expenditure is for tobacco.[12]

Indeed, the spread of tobacco to the developing world gives a hint of what could happen if other addictive substances were made legal. Many transition countries have much higher tobacco use prevalence than the richer ones, and Africa's tobacco market is presently growing by 3.5% per year, the fastest rate in the world.[13] By 2030, more than 80% of the world's tobacco deaths will

Fig. 3: Price of a gram of cocaine as a share of daily GDP per capita in 2005

Source: 2008 *WDR, Human Development Report 2007/2008*



occur in developing countries.[14] These countries can ill-afford this burden of disease. They are even less capable of giving up a share of their productive work force to more immediately debilitating forms of addiction.

"Vice taxes" are also used to control the spread of legal addictive drugs, making them more expensive and thus reducing demand. But again, capacity to enforce these taxes is less in developing countries, and high taxes generate large shadow markets, as illustrated by tobacco markets today. Recent estimates suggest 10% or more of global tobacco consumption is untaxed, and that the illicit share of the market is particularly pronounced in Africa (15%) and Latin America (20%). An estimated 600 billion cigarettes are smuggled each year.[15] If these were priced at just a dollar a pack, this would represent a global market worth US$30 billion, comparable to the

Fig. 4: Cigarette consumption in developing countries, 1970-1992

Source: UN FAO[16]

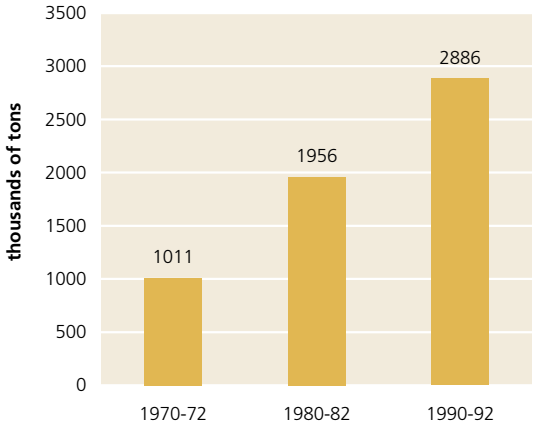
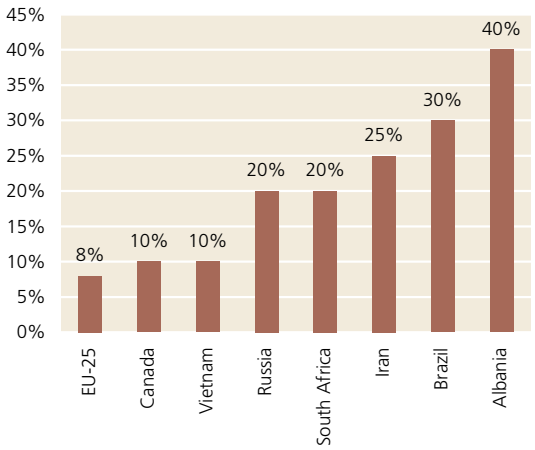


Fig. 5: Share of national tobacco markets that are illicit (recent low end estimates)

Source: Framework Convention Alliance, 2007[17]



US$65 billion market for illicit opiates and US$71 billion market for cocaine.[18] As with illicit drugs, illicit tobacco has been used to fund violence in places as diverse as the Balkans[19] and West Africa.[20]

The universal ban on illicit drugs thus provides a great deal of protection to developing countries, and must be maintained. At the same time, the violence and corruption associated with drug markets is very real, and must be addressed. Fortunately, there is no reason why both drug control and crime prevention cannot be accomplished with existing resources, if the matter is approached in a strategic and coordinated manner.

Control drugs while preventing crime

Drug addiction represents a large social cost, a cost we seek to contain through the system of international drug control. But this system itself has its costs, and these are not limited to the expenditure of public funds. International drug control has produced several unintended consequences, the most formidable of which is the creation of a lucrative black market for controlled substances, and the violence and corruption it generates.

Drug control generates scarcity, boosting prices out of proportion to production costs. Combined with the barriers of illegality and prevention efforts, scarcity and high prices have helped contain the spread of illicit drugs. This has kept drugs out of the hands of an untold number of potential addicts. At the same time, however, high prices allow transnational traffickers to generate obscene profits, simply for being willing to shoulder the risk of defying the law.

Given the money involved, competition for the opportunity to sell is often fierce, resulting in small wars on the streets of marginalised areas in the developed and the

developing world alike. Profits are ploughed back into increasing the capacity for violence and into corrupting public officials. Together, violence and corruption can drive away investment and undermine governance to the point that the rule of law itself becomes questionable.

As a result, some have argued that the costs of controlling illicit drugs outweigh the benefits – in effect, that the side effects are so severe that the treatment is worse than the disease. But this is a false dilemma. It is incumbent on the international community to achieve both objectives: to control illicit drugs and to limit the costs associated with this control. More creative thinking is needed on ways of reducing the violence and corruption associated with containing the drug trade. Progress must be made toward simultaneously achieving the twin goals of drug control and crime prevention.

To do this, there are several ways present efforts could be improved and expanded. First, it is possible for law enforcement to do what it does much better:

- High volume arrests are the norm in many parts of the world, but their efficacy is questionable – to conserve resources, prison space should be reserved primarily for traffickers, particularly violent ones.
- Drug addicts provide the bulk of drug demand; treating this problem is one of the best ways of shrinking the market.
- The links between drug users and drug dealers also need to be severed, closing open drug markets and disrupting information networks using the techniques of problem-oriented policing and situational crime prevention.

Second, both local and international efforts need to be strategically coordinated to address the particularities of specific drug problems:

- The right "balance" between supply-side and demand-side interventions depends very much on the particularities of the situation, and may require resources and expertise beyond those found in agencies traditionally involved in prevention, treatment, and law enforcement.
- At all points in the market (production, trafficking, consumption), strategies should be based on the specific characteristics of the drug involved and the context in which it has become problematic.
- Focus should be placed on shrinking the markets, not just disabling specific individuals or groups.
- Where drug flows cannot be stopped, they should be guided by enforcement and other interventions so that they produce the least possible damage.

Finally, the international community must rally together to assist more vulnerable members in resisting the incursion of drugs:

- Post-conflict reconstruction and development aid should be integrated with crime prevention efforts.
- Better use should be made of the Conventions, particularly toward international action on precursor control, money laundering, asset forfeiture, organised crime, and corruption.
- Information systems need to be improved so that problems can be tracked and interventions evaluated.

2.2 Move beyond reactive law enforcement

Drug possession and sale are illegal in most countries of the world, and, as a result, the drug problem was long seen as primarily a criminal justice issue. Those who take the "drug war" metaphor literally may feel this effort is best advanced by people in uniform with guns. Law enforcement must continue to play a key role, of course, keeping drugs illegal and scarce, but much can be done to make the criminal justice response more effective and efficient.

In the end, the criminal justice system is a very blunt instrument for dealing with drug markets. As necessary as the deterrent threat remains, the arrest, prosecution, and incarceration of individuals is an extremely slow, expensive, and labour intensive process. The key to disrupting drug markets and the associated violence and corruption must lie in making the business of drug dealing more complicated, making it more difficult for buyers and sellers to connect. To do this, the techniques of situational crime prevention and problem-oriented policing should be employed.

Stop jailing petty offenders

Current street enforcement actions could be divided into two categories:

- Opportunistic enforcement, usually against those found in possession of drugs when stopped for an unrelated reason.
- Pro-active enforcement, including buy-and-bust actions against dealers at open markets; searches of suspect premises or persons; and more sophisticated long-term investigations.

All of these actions are justified under the law, but all absorb scarce criminal justice resources. The decision to perform any given form of enforcement has opportunity costs for other approaches. It is important, then, to weigh the impact of any given action both in terms of its efficacy in reducing the size of the black market and any potential side-effects it might have.

"Selective enforcement" evokes a whole range of justified concerns, but the fact remains that, in all areas of law enforcement, the application of the sanctions of arrest and prosecution is a matter of discretion. The number of cases that go to trial is everywhere a small fraction of those brought to the attention of the police. Cases unlikely to produce the desired outcome (generally, a conviction) are abandoned at various stages of the process in favour of those more likely to be successful. These cases should be weighed not just according to their viability, but also with regard to their strategic and social impact.

Unfortunately, the quantitative performance management systems used in civil service worldwide do not encourage this sort of thinking. If the primary performance indicator of the police is volumes of arrests and seizures, little thought will be given to the impact of these arrests and seizures. Not surprisingly, these arrests and seizures are unlikely to have much positive impact. Research indicates that more enforcement is not necessarily better.[21] Conservation of resources requires that police commanders carefully gauge the amount of enforcement required to produce the desired effect.

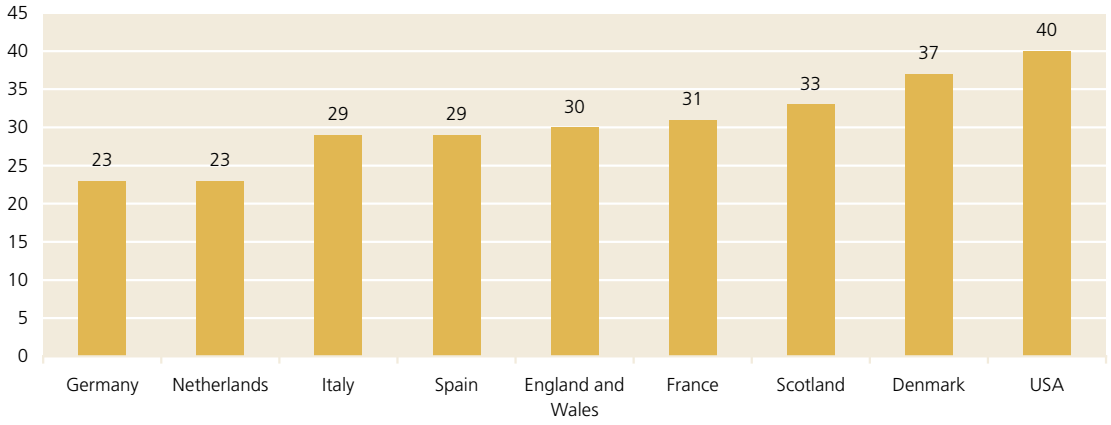
As is discussed further below, there is much to be gained by targeting high profile, high volume, and violent criminals, be they users or dealers. Resources that could have been focused on these individuals are often wasted on the opportunistic arrest and incarceration of large volumes of petty offenders. In the case of casual users, the sanction of imprisonment is excessive; since many are more mainstream than marginal, considerably less expensive options exist for deterring casual use behaviour, such as the measures currently taken when underage drinking and smoking are encountered. Evidence-based treatment is the appropriate response to addiction.

For low-level dealers and other drug market functionaries, these offenders often come from population groups that are too large to incapacitate and nearly impossible to intimidate. Incapacitation of individuals is fruitless when social conditions generate whole classes of people with strong incentives to offend. When these incentives are strong enough and alternatives scarce, all deterrence fails. Those willing to risk death by ingesting a kilogram of condom-wrapped cocaine bullets are unlikely to be put off by the possibility of a jail sentence. Drug addicts and sex workers are equally hard to scare into good behaviour. While the threat of arrest must remain in place to dissuade those who value their future, those who have given up hope are not so easily frightened. Arrest drives focusing on rounding up large numbers of these "undeterrables" result in a net loss in enforcement effectiveness.

To avoid these losses, police need alternative avenues of response, particularly when confronted with non-priority cases of drug possession. In the opinion of the International Narcotics Control Board, the 1988 Convention requires that illicit possession of controlled substances must be prohibited, but it does not require criminal prosecution for small quantities.[23] At times, drug possession can serve as a pretext to detain an otherwise dangerous or suspect individual, but otherwise, the law must allow for non-custodial alternatives when a police officer stumbles upon small amounts of drugs. It is important that the incident be documented and the opportunity availed to direct the user to treatment if required, but it is rarely beneficial to expend limited prison space on such offenders. According to surveys, between a quarter and a half of the population of many countries in Europe and North America has been in possession of illicit drugs at one time or another in their lives. Most remained productive citizens. In only a small share of these cases would arrest, and the lifelong stigma it brings, have been appropriate.

Fig. 6: Percentage of adult population reporting lifetime cannabis use, 2005 or 2006

Source: EMCDDA; NSDUH[22]



Portugal is an example of a country that recently decided not to put drug users in jail. According to the International Narcotics Control Board, Portugal's "decriminalisation" of drug usage in 2001 falls within the Convention parameters: drug possession is still prohibited, but the sanctions fall under the administrative law, not the criminal law.[24] Those in possession of a small amount of drugs for personal use are issued with a summons rather than arrested. The drugs are confiscated and the suspect must appear before a commission. The suspect's drug consumption patterns are reviewed, and users may be fined, diverted to treatment, or subjected to probation. Cases of drug trafficking continue to be prosecuted, and the number of drug trafficking offences detected in Portugal is close to the European average.

These conditions keep drugs out of the hands of those who would avoid them under a system of full prohibition, while encouraging treatment, rather than incarceration, for users. Among those who would not welcome a summons from a police officer are tourists, and, as a result, Portugal's policy has reportedly not led to an increase in drug tourism.[25] It also appears that a number of drug-related problems have decreased.[26]

The approach is not uncontroversial. Portugal did experience an increase in drug use after this policy was implemented, but so did many European countries during this period. Cannabis use increased only moderately, but cocaine and amphetamine use rates apparently doubled off a low base. More alarmingly, cocaine seizures increased seven-fold between 2001 and 2006. While cocaine seizures in a number of European countries increased sharply during that period, in 2006, Portugal suddenly had the sixth-highest cocaine seizure total in the world. The number of murders increased 40% during this same period of time,[27] a fact that might be related to the trafficking activity. Although the rate remains low and Lisbon is one of Europe's safest cities, Portugal was the only European country to show a significant increase in murder during this period.

This rapid increase in trafficking was probably related to the use of Guinea-Bissau and Cape Verde, former colonies, as transit countries. Most of the traffickers arrested in Portugal in 2007 were of West African origin. As international awareness of the problem increased, cocaine seizures fell in a number of European countries, but France and Portugal, two countries with former colonies in the region, showed the most pronounced decreases.

Creative approaches of this sort seem to have been reserved for the parties on the extreme ends of the trafficking chain: the farmers and the users. Because these two groups have been seen, in effect, as victims, a variety of social solutions have been explored as alternatives to harsh law enforcement, including alternative develop-

Fig. 7: Annual prevalence for adult (15-64) drug use in Portugal, 2001 and 2007

Source: EMCDDA[28]

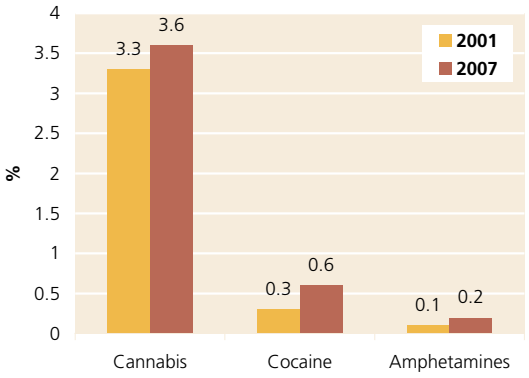


Fig. 8: Kilograms of cocaine seized in Portugal, 2001-2007

Source: UNODC ARQ

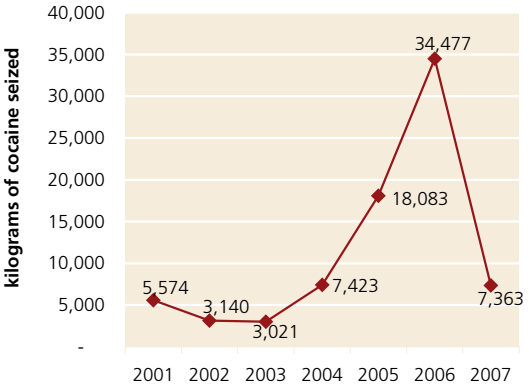


Fig. 9: Citizenship of those arrested in Portugal for cocaine trafficking in 2007 (top eight foreign drug trafficking national groups)

Source: UNODC, *Drug trafficking as a security threat in West Africa*[29]

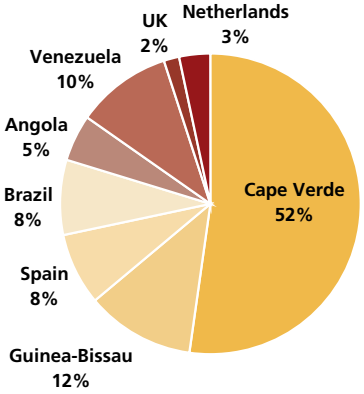
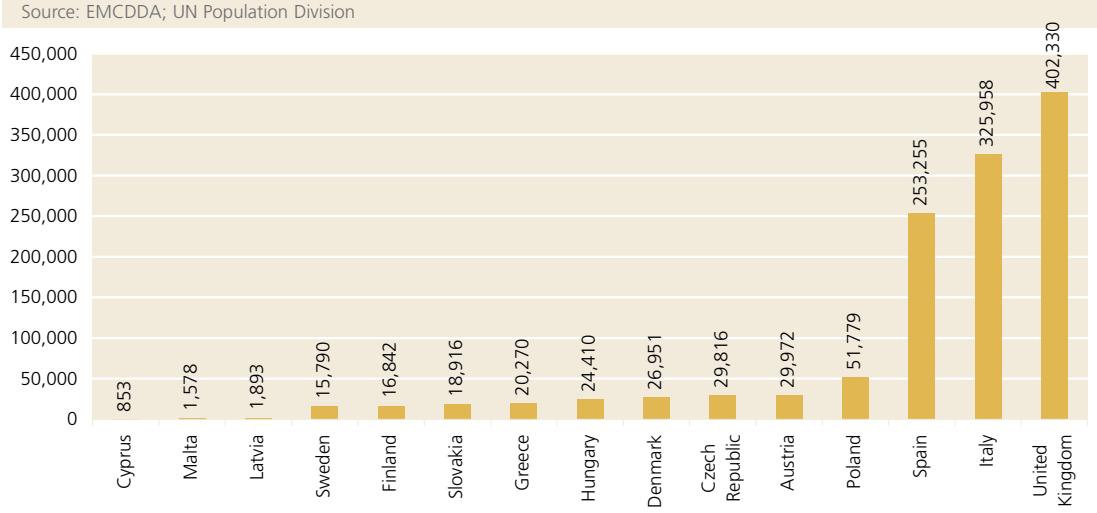


Fig. 10: Estimated number of "problem drug users" in some European countries various years 2002-2006

Source: EMCDDA; UN Population Division



ment and a range of prevention and rehabilitation schemes. Drug traffickers do not elicit similar amounts of sympathy. Seen as actors driven by raw profit, they are held responsible for most of the violence and corruption associated with the drug trade, and the response has been to hit them hard, arresting as many offenders and seizing as many drugs as possible. In some parts of the world, drug enforcement has been used as a pretext to wage war on marginalised communities, resulting in serious human rights violations.[30] Some countries even impose the death penalty for drug offences, contrary to Article 3 of the Universal Declaration of Human Rights.

But even when it comes to notorious and dangerous dealers, there may be alternatives to incarceration. One technique has been piloted in a number of locations in the United States. Investigators compiled detailed dossiers on all known dealers in their jurisdiction, with enough evidence to ensure a likely conviction. These dossiers were simultaneously presented to all the suspects with a warning: desist or face prosecution. Support services and networks were mobilised to make the option of desisting feasible. The idea is to get a large share of the participants to withdraw at the same time, causing the market to collapse. When confronted in this way, it appears that many opt out of drug markets.[31] The threat of drug arrest has also been used to deter violent offenders.[32] While these interventions are labour intensive, they are less costly than processing a similar number of offenders through the criminal justice system.

While incarceration will continue to be the main response to detected traffickers, it should only be applied in exceptional cases to users. All this is not to say that drug use should be ignored; it must be addressed. Drug flows, and their devastating consequences for producer and transit countries, would not exist if it were not for demand in the wealthier nations. While "demand reduction" is not generally associated with law enforcement, there are ways the criminal justice system can contribute. Demand-side interventions have the advantage of taking business away from traffickers without violent confrontation, unlike police operations aimed at taking the traffickers away from the business.

Mainstream the half-a-percent

One of the most efficient ways to deter traffickers would be to undermine their user base. Annual prevalence statistics make it sound like drug users comprise a significant share of the global adult population, but, in fact, a small part of this group consumes the vast bulk of the imported drugs: the addicts. While around 5% of the adult population used some illicit drug in the last year (140-250 million users), only about 18-38 million could be classified as "problem drug users".[33] While definitions of "problem drug use" vary, the European Monitoring Centre for Drugs and Drug Addiction provides estimates for the rates of problem drug use in the adult populations of a number of European countries. The size of these populations range from less than a thousand in Cyprus to some 400,000 in the United Kingdom. Taking the extreme example, it is estimated that about one quarter of the UK's problem drug users reside in London, about 74,000 users, just under 1% of the city's population.[34]

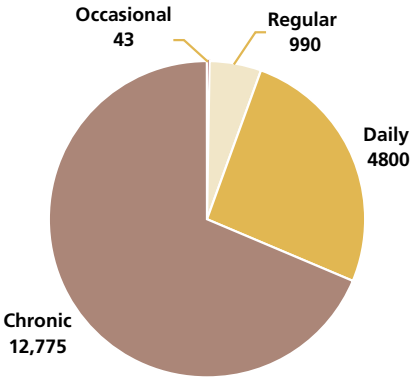
Those who are continuously intoxicated or regularly binge are the real source of demand on which traffickers rely. Removing a significant portion of this source of demand, even temporarily, would rip the heart out of

any drug market. Cannabis provides a good example of this phenomenon. Cannabis is generally consumed communally – surveys across countries show most users consume with other people most of the time. Often this involves passing around a common joint or pipe. With fairly good quality cannabis, only a few deep inhalations are needed to produce the desired effect among those who don't use frequently enough to have developed a tolerance. The volume of cannabis consumed by any given user in such a session is trivial, a fraction of a gram, and many casual users only experience one or a few such sessions each year.

In contrast, about 9% of those who consume cannabis will, at some point in their lives, go through a period of heavy daily use and develop a tolerance.[35] For those whose situations allow, they may be continuously intoxicated. Estimates of the amounts consumed by heavy users vary, but are on the order of several grams per day. In this way, daily or continuous users smoke the vast bulk of the cannabis consumed. The same is generally true in most other drug markets – a small share of the user population appears to consume the bulk of the drug supply.[36]

Fig. 11: Tons of cannabis consumed globally by frequency of use in 2006

Source: *2006 World Drug Report*



There are a number of ways this share could be removed from a drug market, but, due to the nature of addiction, they are unlikely to go willingly. Drug use arrestees should not be incarcerated, but rather diverted to evidence-based treatment or conditional release. Remaining drug-free as a condition for release has been found to be successful where random but regular drug testing results in quick (but not necessarily lengthy) jail time for those who fail to pass.[37] In a city like London, removing the addicts would be a mammoth task, but, as of 2005, Her Majesty's Prison Service already had some 12,000 drug offenders in custody in England and Wales alone.[38] In less problematic and less populated areas, a far smaller body of addicts would need be removed to substantially reduce the profitability of the market.

Unlike cannabis, those who are addicted to less ubiquitous drugs tend to congregate around open drug markets. This gives them continuous access, the company of those similarly situated, a competitive market for their business, and access to criminal employment activities. The ecology of an open drug market is premised on particular conditions, however, the most prominent of which is the neglect of the state. Disrupting this ecology is a matter of bringing some kind of order to these under-regulated zones.

Close open drug markets

Arresting individuals and seizing their drugs is a technique akin to manually pulling weeds. But there are ways of making the environment less receptive to drug markets, effectively making the ground less fertile. These interventions are rooted in the thinking of situational crime prevention, going beyond arrests and seizures to address the social conditions on which drug markets are reliant.

In crime prevention theory, a false dichotomy is often presented between solutions involving law enforcement, which are viewed as short-term correctives, and so-called "social crime prevention", which is usually portrayed as a long term project. In the world of short political time horizons, the latter often gets neglected in favour of the former. But there is a third way: interventions aimed at changing social conditions quickly, to impact the conditions under which drug markets thrive.[39] This sort of thinking is found in the practices of situational crime prevention.

While law enforcement personnel are not typically adept at manipulating social circumstances, they can also play a key role. With training, they can work with addicts in a way that helps them move beyond their destructive behaviour without necessarily using the sanction of arrest. The techniques of problem oriented policing can also help them to recognise and disable the mechanics of drug markets.

For example, drug dealers pay a price for remaining underground. They cannot advertise without exposing themselves to law enforcement. Users generally find vendors in one of two ways. One is an open drug market, a specific geographic area or location where anyone can show up and buy drugs. The second is through a network of social or information connections. Both are vulnerable to disruption.

Many open drug retail markets are found in neglected urban spaces, which also harbour fugitives, sex workers, runaways, and illegal immigrants, and anyone else who wants to avoid the law. These areas are growing in a rapidly urbanising world, especially in developing countries.

Unable to accommodate the rapid inflow of people, these cities are at risk of acquiring slums and informal settlements beyond the capacity of the state to control, where the norms and informal social controls of the countryside are lost, where anonymity and transience allow drug markets to germinate. In some parts of the world, there are whole regions where drugs and other contraband are available for those in the know, including some free-trade areas, breakaway states, and conflict zones.

What these areas have in common is the absence of the rule of law. This does not mean these areas are completely unregulated; a closer look generally reveals the presence of a different kind of authority, an authority with an interest in the appearance of chaos. If these authorities could be called to account, these areas could be reclaimed, with serious consequences for the drug markets.

For example, traditional law enforcement has a hard time operating in slum areas. Drug addicts, like the poor farmers on the other end of the market chain, can be extremely difficult to deter. Street dealers also represent a formidably hard target. Often they are gang members, whose whole ethos revolves around conflict with the police. Prison is an expected part of their life cycle, and death a price they are willing to pay for posthumous respect. Many deal drugs for very low wages, so non-financial motives are foremost among the reasons for their continued participation in the market. In this world, arrests and seizures don't seem to have lasting impact.

But street drug markets do not exist in a vacuum. The drama is played out on a very particular kind of a stage, and it is the stage manager, not the actors, that must be addressed. The property in these areas is owned by someone, someone whose neglect of their property allows illicit activity to continue. Unlike the street addicts and gang members, this someone has something of value to lose – their property. Surprisingly, run-down urban properties are often highly prized among slum lords for the incomes they generate, since marginal people will pay a premium to avoid excessive attention, or because they simply have no choice.[40]

Legislation that requires that owners take responsibility for what goes on in their establishments could go a long way toward restoring order. Those who fail to comply would face an escalating series of fines, ultimately resulting in forfeiture of the property. As actions under the civil law, a lower standard of proof would be required than under the criminal law, and procedures could be streamlined to reduce delays due to litigation. Either through voluntary compliance or by literally taking ownership of the situation, the state could once again reassert control over these neglected areas. Ownership could be transferred to law-abiding citizens within and from outside the marginal area, and these residents would have a personal stake in assuring their property remains crime-free.[41]

Not every drug market is so tightly associated with a particular piece of property, of course, but the general principle behind this sort of intervention still applies: it makes little sense to try to deter those with nothing to lose. Many are drug users themselves, and may not be rationally planning their actions in accordance with their own best interests. They are generally not the ones making the important market decisions in any case. If these people are moved toward the mainstream, drawn in instead of pushed down, the market loses its most important foot soldiers.

Instead, punitive measure should be taken against those who are making real profit from the state of affairs. Some of these players are simply negligent, others are complicit. In either case, they are participating in drug markets because they make money doing so. Threats to that money can be expected to produce results.

These types of interventions need not have great resource implications. Some forms of regulation are essentially self-enforcing. For example, laws limiting tobacco smoking in public places would be a failure if they relied on the state for enforcement – there are simply too many smokers to control. Instead, anti-smoking laws rely on two non-state sources for compliance. One is the owners of the public establishments themselves, who comply because, as property owners, they are motivated to remain in compliance with the law.

The second is non-smokers, who, by virtue of the law, are given a chop moral basis to object to public smoking. The paradigm shift in the anti-tobacco campaign came when the issue ceased to be framed as a matter of personal choice and began to be seen as an issue of public health. Drug markets are no less hazardous for those involuntarily exposed to their "second hand smoke". Similar vehicles must be designed to empower the majority of people who want no part of drug markets in their communities. Partnerships between local community-based or faith-based organisations and state agencies charged with addressing the drug issue could provide both information and networks for uprooting open drug markets.

Of course, closing an open retail drug market does not mean the problem has been solved. Addicts need their drugs, and will continue to source them through information networks. But closing open drug markets can have several benefits:

- Open drug markets have a devastating effect on the marginal neighbourhoods that host them; removing them can allow these communities to heal and become reintegrated.

- The under-regulated zones that host many open markets also host marginalised populations prone to substance abuse, including runaways, people with mental health problems, and sex workers; closing the market would break this important spatial connection.
- Open drug markets allow virtually anyone to show up and buy; closing them should slow the expansion of the user base beyond the affected area.
- Closing open markets removes the territorial element on which so much drug related violence is based.
- Removal of the territorial element may take drug markets out of the hands of street gangs.

In terms of violence, one of the worst things that can happen in a drug market is for it to fall into the hands of street gangs. Street gangs appear to have evolved independently in many parts of the world, while missing in other areas entirely. They hold in common an ethos of opposition to the law, however, so interventions designed to deter most people may, perversely, encourage illegal activity in gang members. While there is considerable heterogeneity, most gangs are defined by their association with a particular territory ("turf") and their capacity for violence, whether or not they deal drugs.

Drugs may increase the incentives and occasions for violence, but much of the violence of drug-dealing gangs is related to issues of "respect", and is often committed contrary to their market interests.[42] There is evidence that street gang members are among the lowest-paid actors in the entire distribution chain.[43] They sell drugs because that is what street gang members do, because it is a job that can be done while standing on a street corner, and because it is perceived as affording greater dignity that fast-food work, not because it pays well. But given limited alternative forms of employment for uneducated young men with criminal records, it may be the only job on offer. And the prospect of possible future riches may be enough to justify continued participation despite relentless evidence that their efforts are fruitless.

Removing drugs as an income stream may decrease the attractions of gang membership and result in long-term violence reduction. And the surest way of taking drugs out of the hands of gangs is to close spatially-linked drug markets.

Disrupt information networks

In addition to open markets, drugs are dealt through personal networks. These markets rely on trust – new participants are only introduced through the endorsement of existing members. This slows their growth and leaves them fragile. An inherent weakness of black markets is that most of the participants are untrustworthy. Removal of key links, the use of informants, and sting operations (or the rumour of sting operations) can cause extended networks to collapse, and reconstitution may be difficult.[44]

Similar principles apply further up the trafficking chain, at the wholesale level. People who broker drug deals have only their connections to sell, and therefore take great pains to ensure their suppliers never meet their customers.[45] If the brokers are removed, they are not always easily replaced. This weakness was recently exploited to disrupt the heroin markets in Australia, with very positive consequences.

The causes of the "heroin drought" have been debated,[46] and it is highly likely that a number of factors played a role, but the balance of the evidence suggests that law enforcement action was important. Australian authorities had determined that heroin trafficking was proceeding in very large shipment through a limited number of nodal points ("brokers") who had connections to both Southeast Asian suppliers and a vast network of street retailers. Evidence suggests that coordinated, international-level law enforcement operations over a number of years may have progressively removed some of these key brokers, disrupting large-scale shipment to the country, reducing the quantity and quality of heroin available to street-level dealers. In the interim, many addicts went into withdrawal, and some appear not to have resumed heroin use; the market remains smaller to this day. By the time connections were resurrected, the market was not nearly as large. The smaller market attracted fewer new users. Violence, drug-related crime, overdoses, and overall use declined dramatically.[47]

2.3 Create flow-specific drug strategies

In addition to refining local enforcement techniques, there is a broader need to approach the drug problem strategically. Drug strategies are usually devised at a national level, but this is not always the most useful frame of analysis. The most important manifestations of the problem are highly local, and not every area is equally affected. Coming to terms with "the world drug problem" can be overwhelming when the issues are not described with sufficient specificity. When broken down into specific flows affecting specific areas in different ways, the problem becomes more manageable.

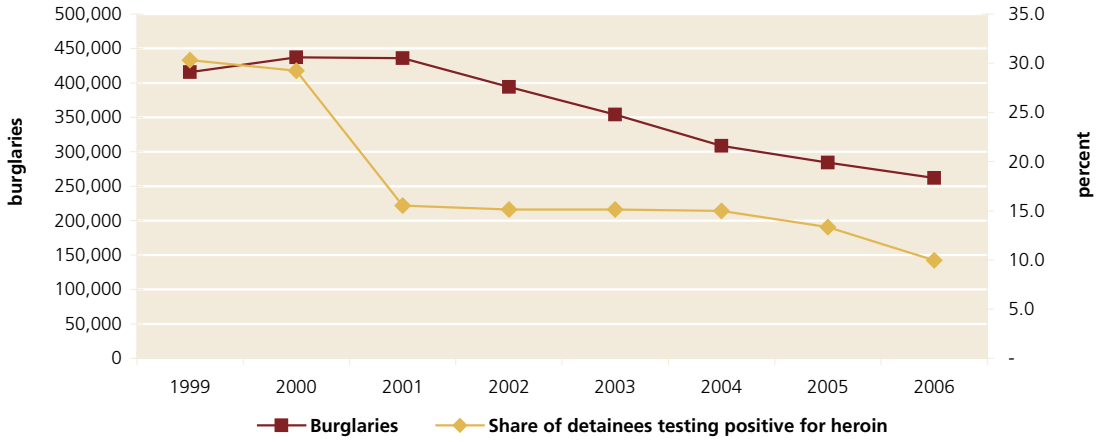
At the same time, local issues are deeply connected to what is going on internationally. As is discussed below, the particularities of each situation are tremendously important in designing interventions, but these interventions can only be effective if they are coordinated across borders. Failure to coordinate local initiatives reduces the impact and results in displacement, an effect that has become a recurrent theme in global drug control.

Develop a truly "balanced approach"

The incompatibility of the problem and the primary tools used to engage it has long been recognised, and a "balanced approach" between supply-side (enforcement)

Fig. 12: Number of burglaries and the share of inmates testing positive to heroin in Australia

Source: Australian Institute of Criminology, *Drug Use Monitoring in Australia* and *Australian Crime Facts & Figures*.



and demand-side (prevention and treatment) interventions has become a commonplace of best international practice. The Conventions, however, are rooted in supply reduction: transnational trafficking is an international issue, whereas efforts to address demand are largely domestic. Coordinated action on supply has a 70 or 80-year head start on demand-side work. As was observed in this Report some 12 years ago, countries are frequently criticised for failing to hold up their end in cooperative supply control efforts, but rarely is a nation taken to task for doing too little in prevention and treatment. Partly as a result, in most countries, far more resources have been assigned to supply reduction than to demand reduction.

The situation is even more pronounced in developing countries. International assistance in fighting drug supply has been eagerly accepted, since it often takes the form of military hardware, technology, and training. These tools can be used to shore up shaky administrations and combat political opponents. Law enforcement assistance can also further the foreign policy interests of the donor. In comparison, the promotion of treatment centres or prevention campaigns is relatively unattractive.

Aside from resource distribution, the concept of a "balanced approach" suggests that someone is weighing the alternatives, assessing drug problems and designing coordinated interventions as part of an integrated strategy. It suggests that actors working on both sides of the drug problem are in communication with one another about current developments.

Unfortunately, in these respects, a truly balanced approach is rarely realised. Institutional barriers discourage cooperation between government sectors. More often, departments of law enforcement, education, and public health fight each other for resources in what is seen as a zero-sum game. Even when oversight or strategic offices are established, they seldom have the authority to overcome this insular bureaucratic tendency.

Different markets call for different interventions at different times. Resource allocations need to be similarly dynamic and problem-specific. Further, these resources and the programmes they fund should not be limited to those departments who have traditionally dominated anti-drug efforts. Criminal justice agencies lack the tools to take on all aspects of the drug trade, and many do not make full use of the tools they have. Police and prosecutors must continue their work, keeping drugs illegal, but more dramatic change requires a mandate and a skills set not generally found among criminal justice actors. It may be that drug markets are deeply tied to issues in housing, or foreign affairs, or land use, or transportation, or immigration, or urban development. Until the full range of governmental powers is available to the drug control effort, it is likely that the same agencies will continue to do the same work in very much the same way.

Moving beyond the capacities of any particular government, international action should also include those involved in development work and peace building. This point is discussed further below.

Target specific drug problems

There is also a common tendency to treat the galaxy of illicit substances as an undifferentiated mass. Different drugs come from different places, attract different consumers, and are associated with different problems, but they are rarely the subject of distinct strategies. Drug policy is too often "one size fits all", when what is needed are interventions tailored to deal with each substance and the unique issues it raises in each location it touches.

Fig. 13: Drug yield in dose units per square meter of illicit crops

Source: UNODC yield studies

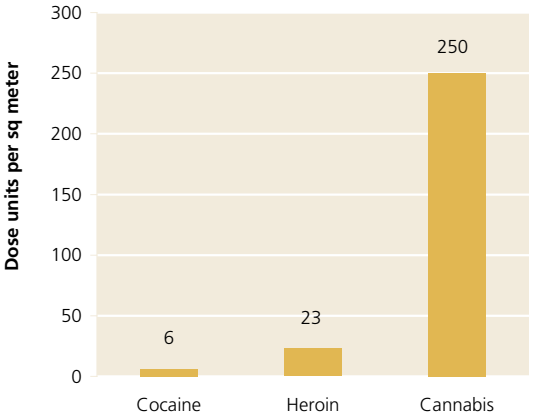
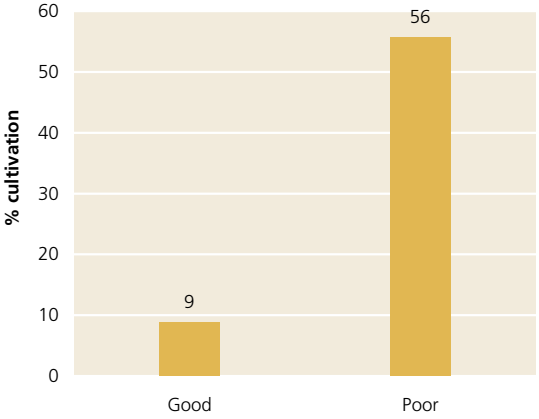


Fig. 14: Share of villages cultivating poppy with good and poor security

Source: *Opium Winter Rapid Assessment 2009*[51]



Cultivation

Different drugs pose different issues from the point of cultivation onward. For example, cannabis is grown in at least 176 countries around the world. It can be grown indoors or outdoors, and is often cultivated in small plots by the users themselves. Because cannabis produces high yields and requires no chemical processing before use, it is the only common illicit drug (except maybe opium) where users can comfortably generate their own supply.[48] Since it requires relatively little maintenance, it is often grown on vacant land in developing countries, by small scale farmers also cultivating other crops. As little is invested, eradication does not provide much disincentive to trying again. Law enforcement can discourage large-scale plantations, which are clearly maintained by well-resourced farmers with a great deal to lose, but the point of diminishing returns is quickly reached in ferreting out smaller grows. The eradication of feral cannabis ("ditchweed") can actually aid illicit cultivators, as it reduces pollination by lower potency strains and, if carried out vigorously enough, allows outdoor cultivation of sinsemilla.[49]

Synthetic drugs pose similar challenges as cannabis, in that they can be manufactured anywhere the necessary chemicals are available. Unlike cannabis, however, for most synthetic drugs the skills needed to access and process the needed chemicals are not widely spread,[50] and, consequently, the market tends to favour more organised groups. Global precursors control is clearly key in disabling this market.

In contrast, most of the cultivation of drug crops like coca and opium poppy is confined to small areas within two or three countries. Most of the world's heroin supply is produced on a land area about the size of Greater London (170,000 ha). This area is by no means the only part of the world where opium poppy could grow; its range is actually quite wide. The world's heroin supply comes from this region because it is controlled by insurgents. Most of the world's most dangerous substances come from areas with serious governance problems, because large-scale cultivation requires swathes of territory which are effectively outside the control of the national government. Since insurgent groups typically tax cultivation in the areas under their control, the two issues become inextricably intertwined. Reducing cultivation in these areas is contingent upon establishing political stability and the rule of law. This can be seen in Afghanistan, one of the areas where insurgency and drug production are most clearly symbiotic. The 2009 Winter Opium Poppy Assessment found a strong relationship between poppy cultivation villages and poor security.

Trafficking

Differences on the production end also affect the way the different drugs are trafficked. Since cannabis can be produced virtually anywhere by anyone, it need not be trafficked internationally. Surveys in a number of countries indicate that most users get their cannabis for free at least part of the time, and low-end cannabis is relatively cheap in most markets. This reduces the attraction of the drug for organised crime groups in many parts of the world, particularly where drug law enforcement is low, including much of the developing world. There are obvious exceptions (over 1000 tons of low-grade herbal cannabis is confiscated annually on the southwest border of the United States), and transnational organised crime is most prevalent today in two markets: hashish and the "new" cannabis (buds of sinsemilla, bred for high potency, usually produced indoors, often hydroponically).

In contrast, ecstasy production is a more complicated matter than growing cannabis, so transnational traffick-

ing is more commonly involved. Ecstasy distribution is also generally more structured and hierarchical. Although social network distribution is common, consumption of ecstasy is often tied to particular events or dance clubs, and control of these venues means control of the drug market. This control is exercised by club or event security, who have the power to authorise particular dealers or products, often in complicity with the club owners or event organisers.

Consumption

Cocaine is often consumed in "binges", whereas heroin addicts need a predictable supply to avoid withdrawal. These differences shape the market and its consequences. Heroin addicts have the time and disposition to plan and execute property crime, such as burglaries. Users in the midst of a crack binge operate on a much shorter time schedule, and are more likely to take property by force in a robbery.[52] Heroin addicts do trade sex for drugs but crack is much better suited for sex work, since it boosts energy, alertness, and confidence – all assets when negotiating delicate transactions on the streets.

These differences are real and have implications for control strategies, but they should not be mistaken for inherent properties of the drug. The same drug can have very different sorts of impacts in different social contexts.[53] The classic example is alcohol, which is associated with violence and sexual aggression in some societies, but not in others. Cannabis is also associated with violence in some societies, a fact that Western consumers may find difficult to believe.[54] Cocaine use among the affluent has very different implications than cocaine use among the dispossessed. Any drug-specific strategy should take local context into account.

Drug problems, and the appropriate response to them, also vary over time. The ratio between all drug users and the number of addicts depends on where the given market is in the epidemiological cycle of the drug. In the early days of an epidemic, strong law enforcement is often successful; later, when a large body of addicts have become entrenched, treatment tends to provide the best return on investment.[55]

Focus on markets, not individuals

It is often difficult for law enforcement agencies to participate in strategic approaches to crime problems because the case-specific nature of their work. In the past several decades, international law enforcement has struggled to come to grips with the phenomenon of transnational criminality generally. Penal law is matter of national legislation and custom, and, historically, has dealt with matters of primarily local interest. The global rise in prominence of "organised crime" prompted the creation of a United Nations convention: the 2000 *United Nations Convention against Transnational Organized Crime*.

But this agreement itself highlights the difficulties of coming to consensus on the nature of the problem. Remarkably, the convention nowhere defines "organised crime".[56] Instead, the Convention settles for a rather broad description of "organized criminal group", comprising the following elements:

- a group of three or more persons that was not randomly formed;
- existing for a period of time;
- acting in concert with the aim of committing at least one crime punishable by at least four years incarceration;
- in order to obtain, directly or indirectly, a financial or other material benefit.

Since most "groups" of any sort usually involve three or more people working in concert for a period of time, the defining characteristic of organised crime under the Convention is its seriousness and profit-driven nature. The Convention does not require that the groups operate transnationally, and so the definition encompasses strictly local forms of crime-for-profit.[57] Beyond the fact that money must be made, the range of relevant criminal activities is theoretically unbounded. In practice, however, the backbone of global organised crime has long been transnational trafficking, in particular the illicit trade in drugs.

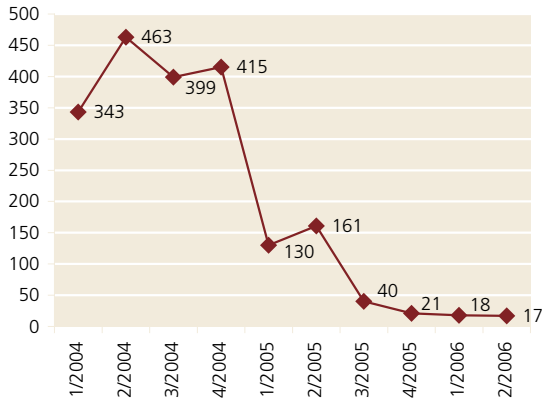
The focus in the Convention on the group, rather than the activities of that group, is not unique to the Convention. It is a manifestation of a recurring perceptual problem in law enforcement. Police officers, investigators, and prosecutors are employed to make cases against individuals and groups of individuals. They lack the authority and the tools to take on an entire trafficking flow. As a result, they tend to conceptualise organised crime as the activities of a collection of particular people, rather than a market with a dynamism of its own.

Today, organised crime is less a matter of a group of individuals who are involved in a range of illicit activities, and more a matter of a group of illicit activities in which some individuals are presently involved. If these individuals are arrested and incarcerated, the activities continue, because the market, and the incentives it generates, remain.

Sometimes, taking action against the market may mean forgoing action against individuals. It is important that the deterrent message reaches those who actually making the key decisions, rather than the undeterrable masses who often make up the face of drug trafficking. The decision makers are generally rational and profit-oriented, as opposed to their front-line employees, whose behaviour may have more to do with issues of livelihood, identity and emotion. Sending negative economic

Fig. 15: Couriers Detected Arriving at Schiphol from Curacao, by Quarter

Source: World Bank and UNODC, *Crime, violence, and development*[58]



feedback can be more effective than endless low-level enforcement.

For example, since 2000, the authorities at Schipol Airport in the Netherlands were faced with a tide of cocaine coming in on commercial flights from the Netherlands Antilles. Over 6000 couriers were arrested in less than three years. The couriers were largely body packers, each carrying about a kilogram of cocaine in their intestines. For the traffickers behind these couriers, the difference in the price of a kilogram of cocaine in Curacao and a kilogram of cocaine in Amsterdam was sufficient to cover the cost of the flight, the fee for the courier, and quite a few losses. The couriers themselves were disposable, cheap, and inexhaustible, like cardboard boxes. Losing a few was of no consequence if enough drugs got through to turn a healthy profit.

Dutch airport security was constrained by the same issues that constrain law enforcement agents everywhere. Processing a subject through the criminal justice system takes a tremendous amount of time. In addition to intake, the arresting officer may be called upon to testify at trial, and may be compelled to appear multiple times before actually taking the stand. As a result, there are limits on the number of suspects who can be arrested on any given flight. Traffickers know this, and "shotgun" multiple couriers on a single flight. In the case of the Antilles, this could be 30 couriers on a flight or more, overwhelming the system.

Under these circumstances, arresting individual couriers was futile. It sent no message back to those who were making the decisions, since not enough couriers could be arrested to impact on the bottom line. Rather than focusing on the couriers, the emphasis shifted to the drugs. A system called "100% control" was implemented, with scanners and profiling on both ends of the flight. Europol described the mechanics of the policy in this way:

> *Crews, passengers, their luggage, the cargo and the planes are systematically searched. Couriers with amounts of less than 3 kg of cocaine are not detained, unless they are arrested for the second time or another criminal offense is involved. Instead, the drugs are confiscated and the smugglers are sent back. Couriers who have been identified are registered on a blacklist, which is provided to KLM, Dutch Caribbean Airlines and Suriname Airways.*[59]

While it would be extremely difficult to process 30 suspects per flight through the criminal justice system, it was a relatively simple matter to hold them all and wait for the drugs to pass. When the level of seizures reached a point that trafficking through the airport was no longer profitable, the flow of couriers stopped. The responsible parties had finally received the message.

Of course, despite the undeniable success of the 100% control strategy, cocaine continued to flow into Europe. The drug supply had not been stopped, but it had been guided. The ability of government to shape drug markets is not without value, however, and can be used to limit the unintended consequences of enforcement.

Guide the market

Law enforcement has not succeeded in stopping the flow of drugs from their origins to their destinations, but this does not mean it has had no impact on drug markets. As mentioned above, the production costs of drugs comprise only a tiny fraction of their retail cost, and this fact is entirely attributable to their illegality. In addition to affecting the amount of drugs getting though, there are other ways that interdiction work affects the drug markets. The impact of law enforcement should be used to guide the market in ways that maximise positive side effects and minimise negative ones.

For example, the phenomenon of "displacement" is often used to criticise drug control efforts. Crackdowns in one country or region cause cultivators and traffickers to move operations to another. This ability of enforcement to displace production and trafficking from one area of the world to another is a valuable tool if wielded with some foresight. In particular, it is important not to displace trafficking into areas where the social impact is likely to be particularly devastating.

Drug flows do not impact all that they touch in the same way. For example, over decades tons of heroin have transited the Balkans on their way from Afghanistan to Western Europe. The present estimate is that about 80 tons of heroin transits this region each year. It apparently does so with surprisingly little impact on the countries through which it passes. The available data suggest rates of drug use, murder, and other forms of crime in

Fig. 16: Total recorded robbery and assault victimisation rates per 100,000 adjusted for under-reporting

Source: UNODC, *Crime and its impact on the Balkans*[60]

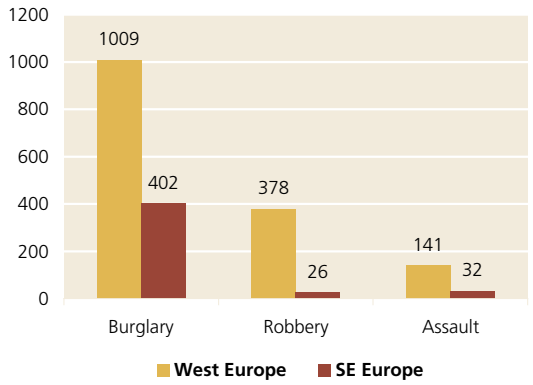
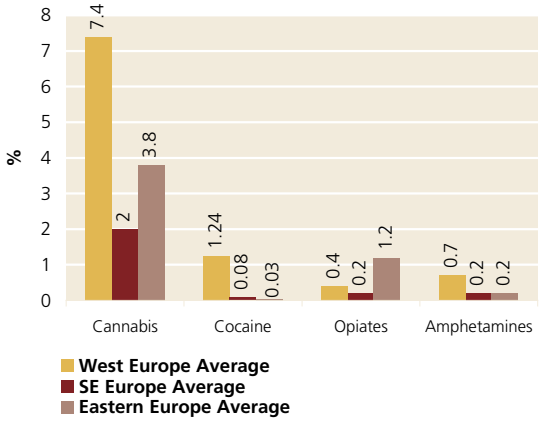


Fig. 18: Average annual drug use prevalence, 2005 estimate

Source: UNODC, *Crime and its impact on the Balkans*[63]



the Balkans are lower than in West Europe. This may be because the flow through these countries is highly organised, reliant on high-level corruption, and close to the destination markets.[61]

In contrast, the flow of cocaine through Central America and the Caribbean appears to be directly related to the violence afflicting those regions. For example, in 2004 the murder rate in the rural and largely indigenous Guatemalan province of Petén, close to the Mexico border, was higher than that in Guatemala City. The most remarkable thing about this otherwise pacific province is its notorious role in drug trafficking. Petén has less than half a million people and saw its first paved road in 1982, but has long been the site of clandestine landing strips for traffickers who proceed by land across the Mexican border.[64]

Fig. 17: Guatemalan murder rates per 100,000 by province in 2004

Source: UNODC, *Crime and Development in Central America*[62]

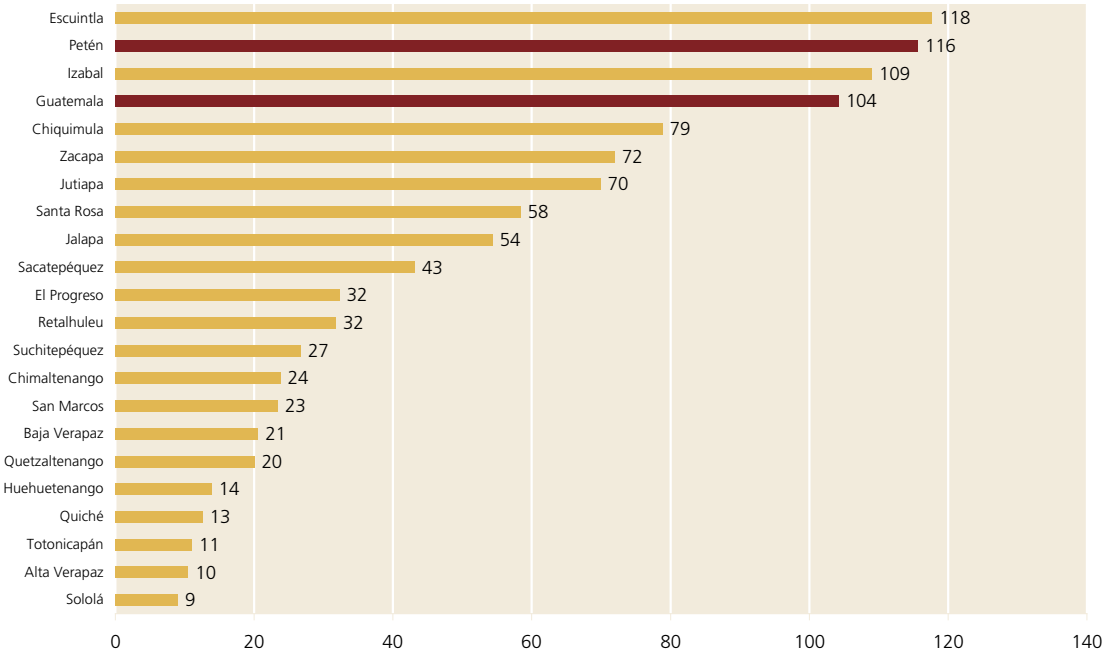
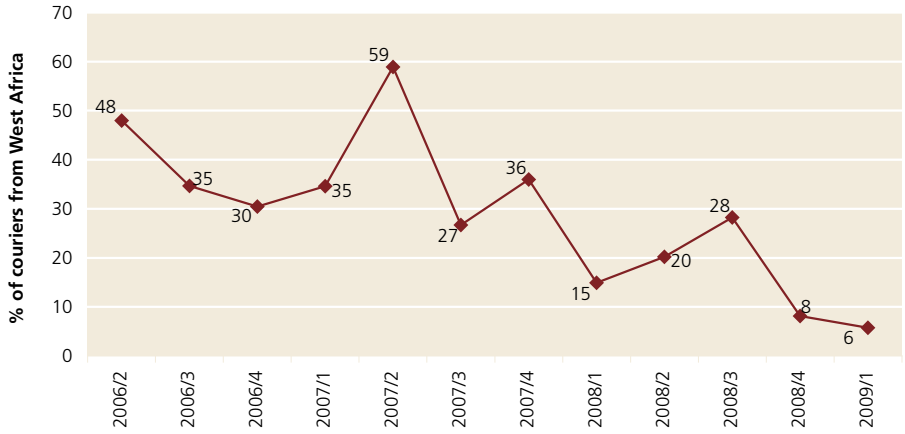


Fig. 19: Share of detected cocaine couriers whose flight originated in West Africa

Source: UNODC, *Transnational trafficking in West Africa: A threat assessment*[65]



Recently, another highly vulnerable area became part of a major cocaine trafficking flow for the first time: West Africa, one of the poorest and least stable areas of the world. From sometime around 2004, Colombian traffickers increasingly made use of West African countries as a transit area for their cocaine shipments to Europe. Between 2004 and 2008, at least 46 tons of cocaine were seized in the region and approximately 3.4 tons of cocaine were seized in Europe from some 1400 couriers on commercial air flights from West Africa.

The impact on the region was immediate and devastating. Drug traffickers used their financial leverage to corrupt top political, military, and law enforcement officials in several countries in the region. There were many incidents in which drug seizures disappeared or traffickers escaped inexplicably. In Guinea-Bissau, there was a standoff between the police and the military over the search of a plane later determined to have contained cocaine. In Sierra Leone, the minister of transport stepped down after his brother was implicated in a large air shipment. Reports began to circulate, including in the affidavits of trafficking suspects, that trafficking through Guinea was controlled by the son of the president who had ruled that country since 1984, Lansana Conté. After Conté's death at the end of 2008, his son was arrested and confessed to his participation on national TV, alongside the former president's brother-in-law, head of intelligence, and head of the national drug squad.

Around 2006, cocaine trafficking through West Africa began to attract international attention, including that of the United Nations Security Council. A wide range of players began to offer emergency assistance, including resources for law enforcement, intelligence, and direct interdiction. Air flights from the region began to receive special scrutiny. In short, the region was put under a spotlight, presenting less than optimal conditions for drug traffickers.

By 2008, seizure volumes were in sharp decline, and as of May 2009, there have been no multi-ton seizures reported. The number of air couriers detected in European airports has plummeted. According to the database of one network of European airports, of all cocaine couriers detected, the share coming from West Africa dropped from 59% in the second quarter of 2007 to 6% in the first quarter of 2009.

While many of the vulnerabilities that made West Africa attractive to cocaine traffickers remain in place, the increase in international attention appears to have been sufficient to persuade them to find paths of less resistance. It is possible, if not likely, that they would return should international attention falter. But for now, West Africa has been spared the corrupting influence of a cocaine flow valued at more than the GDPs of some countries in the region.

Cocaine continues to find its way to Europe, of course, and there are no indications that the loss of this route significantly curtailed supply. There are few regions of the world as vulnerable as West Africa, however, and international attention has apparently given this poor region a reprieve. The threat was addressed early enough that the impact need not be long-lasting. On the whole, this was a very positive result.

This example shows that while international cooperative efforts have not plugged every hole, they can present significant disincentives, guiding markets. Aside from guiding flows, there are many other ways enforcement could be used strategically to reduce violence, corruption, and other unintended consequences. For example, the decision to target violent drug traffickers has the

effect of advantaging non-violent offenders. The size of the drug market may remain the same, but the state has provided an economic incentive to avoid violence.[66] With some practice, these sorts of interventions could also be used as part of a broader plan to significantly undermine specific trafficking organisations or even whole markets.

2.4 Strengthen international resistance to drug markets

In addition to creating viable international and local strategies for dealing with drug problems, it is important that the actors themselves be strengthened. The weak link in drug control has long been those parts of the world where the rule of law is absent. Building institutional strength and capacity in these countries is key to the mission of supporting democracy, economic growth, and human rights.

It is also important that the bedrock of international cooperation be strengthened, through enhanced use of the United Nations Conventions. In addition to the drugs Conventions, those on Transnational Organised Crime and Corruption present great opportunities for reducing the size of drug markets and associated problems.

Spread the rule of law

As mentioned above, large-scale illicit crop cultivation seems to require political instability because accountable governments can be compelled to take action against drug production in areas under their control. It is no coincidence that most of the world's cocaine and heroin supplies come from countries with insurgency problems. Almost all of the world's cocaine supply comes from three countries and almost all the world's heroin supply comes from two. This is not because coca and opium poppy could not be cultivated in other areas – in the past, most of the world's supply of these drugs came from countries not presently leading illicit production. All of these countries have problems with the rule of law in the cultivation areas.

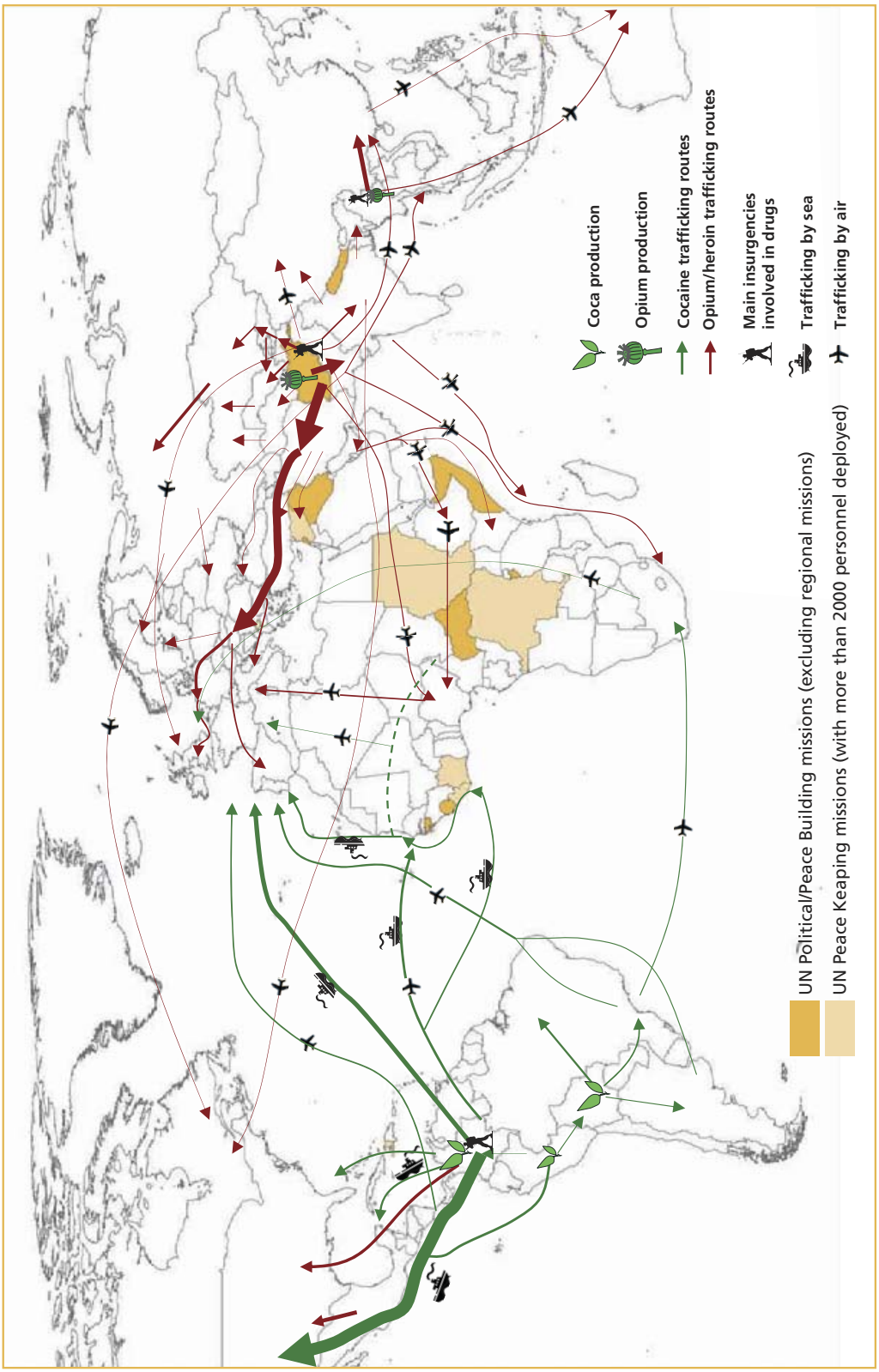
But while cultivators may enjoy zones of chaos, some traffickers may prefer authoritarian regimes. Areas too fraught by conflict lack the infrastructure and the predictability to be good commercial nodes, whether the trade is licit or illicit. In contrast, areas under control of an absolute, and absolutely corrupt, leadership allow what would normally be clandestine activities to be conducted openly, greatly increasing efficiency. Rather than risk the unpredictable cost of interdiction, traffickers may opt for the more predictable costs of corruption.

In the end, the two phenomena go hand in hand. Absolutist governments are often formed (and tolerated) in response to the threat of instability. This threat typically exists because some portion of the population is poor and marginalised, and the state is either unwilling or unable to meet its needs. As a result, dealing with drug cultivation countries and transit countries often boils down to the same thing. The rule of law must be strengthened in all its aspects, including promoting democracy, increasing the capacity for law enforcement, and ensuring the protection of human rights, as well as promoting economic development.

Economic development is also key in promoting political stability. Civil war has been linked to both low income and low growth.[67] Unfortunately, political stability is also key to economic growth. As one authority points out "Civil war is development in reverse."[68] To break out of this cycle, measures taken to establish civil order can establish the foundation for investment and growth. In this way, all aspects of international cooperation are related. Development assistance, post-conflict planning, and crime prevention must be coordinated, for any weakness in the chain can lead to the collapse of the whole.

Map 1: Cocaine/heroin trafficking routes and instability

Source: UNODC



Make better use of the international tools and interventions

The 1988 Convention established the means to move beyond arrests and seizures in dealing with international drug problems. The anti-trafficking measures, including those aimed at chemical precursors, money laundering, and asset forfeiture, greatly expanded the tools available to law enforcement. Two decades later, much more could be done to apply these tools to transnational trafficking flows. Cooperative work on money laundering and asset forfeiture in particular could greatly be expanded.

Those involved in work on transnational drug issues are very familiar with the three drug Conventions, but may be less familiar with those on Transnational Organised Crime and Corruption. This is a pity because these two under-utilised instruments could be used to great effect in combating drug markets and related violence and corruption.

The United Nations Convention on Transnational Organised Crime is key in establishing the legislative framework needed to address the drug business, and in building the mechanisms for international cooperation. But there is a large gap in the rate of ratification and the implementation of its provisions. Many countries have passed legislation that is rarely used, but has tremendous potential if applied strategically. For example, the Convention allows for the criminalisation of membership in an organised crime group without the need to prove any particular individual was associated with any particular offence. This can be used to confront organised crime groups with the certainty of arrest if drug market activity or violence does not stop, as discussed above.

Another underutilised opportunity for cooperation lies in the area of money laundering and asset forfeiture. Perhaps because law enforcement officials lack financial expertise, police departments across the globe find the process of tracing and seizing money far more difficult than tracking contraband. Even more unusual is international cooperation in the recovery of illicit assets. But much of the costs of enforcement could be redeemed if asset forfeiture were taken seriously. If legal challenges and administrative difficulties have proven insurmountable, a renewed effort must be made to streamline the process so that money made in crime can be used to prevent it in the future.

The same is true in the area of corruption. By providing criminals with virtual immunity from prosecution, corruption can nullify the deterrence effect normally expected from the enforcement of the drug control system. In adopting the United Convention against Corruption, the Member States have equipped themselves with a powerful instrument to remove an essential lubricant of criminal black markets. But despite the fact that the convention entered into force four years ago and has already been signed by 140 countries, this effort has also fallen short of its potential when it comes to its concrete application.

When dealing with corruption, the basic principle of focusing on those who can be deterred applies once again. A dealer risks very little in offering a bribe, an but official risks quite a lot in receiving it. In a word, they can be deterred. Those who might be expected to encounter traffickers in their daily business should expect to be especially scrutinised, if not audited. Transparency should be the price of the job.

Corruption and drug markets are locked in a mutually re-enforcing cycle. Drug money is a powerful corrupting force, but many drug markets would be impossible without corruption. Anti-corruption work has the potential to simultaneously improve governance while undermining the ability of criminals to operate with impunity. Once the cycle is reversed, growing confidence in government will improve citizen cooperation, further undermining corrupt officials and the criminals that rely on them.

In parallel to these efforts to strengthen international resistance to drug markets broadly, there is a need to act on an emergency basis in those parts of the world where the rule of law has collapsed, and ensure that crime prevention is at the head of the agenda when reconstruction begins. Tottering states everywhere both generate and attract organised crime. Crime predictably comes with periods of transition and upheaval, and planning should proceed with this fact in mind.

Peacekeeping and crime prevention must go hand in hand. Their object is the same: the provision of safety and security. Their opponents are also often the same: the agents of instability that profit off human misery. Even after the open hostilities have ceased, however, these same agents continue to operate in states struggling to get back on their feet. As has become evident in Afghanistan, those who earn their money from instability will go to great lengths to ensure this instability persists. Peacekeeping and reconstruction missions are not complete until these countries are able to cope with the security challenges confronting them, be they armed insurgencies or organised crime. Reconstruction and development cannot proceed without the rule of law in place.

Improve information systems

As the first part of this World Drug Report demonstrates, there remains a great deal of uncertainty around the extent and nature of drug production, trafficking and consumption. This is not because these data involve clandestine markets and are therefore unattainable. The methods and techniques for extracting reliable informa-

tion about drug activities have been honed over decades. In many cases, all that is needed is the small amount of effort required to gather and submit administrative data, data that are gathered in the normal course of business for government in any case.

A renewed effort must be made to bolster our collective knowledge base around global drug issues. This information is in the strategic security interests of all parties concerned. Information-sharing obligations embedded in the Conventions are not consistently fulfilled by a number of key parties. Without this information, it become very difficult to describe the present situation or the direction things are going. It also becomes impossible to gauge the impact of specific and collective interventions.

2.5 Take the crime out of drug markets

The discussion above has outlined some of the ways that global drug control efforts could be improved to reduce the size of the drug markets and the associated violence and corruption. First, it suggests several ways current enforcement practices could be refined:

- Drugs must remain prohibited because the fact of illegality alone reduces the number of potential addicts, particularly in developing countries.
- Drug control must be conducted in ways designed to limit associated violence and corruption.
- Drug enforcement should focus less on high volumes of arrests and more on reducing the size of drug markets through targeted enforcement and situational crime prevention.
- The incarceration of drug users should be exceptional; rather, users should be tracked and addicts brought into treatment.
- The addict population should be a priority, as they provide the bulk of the demand.
- Open drug markets must be closed, using the techniques of situational crime prevention and problem-oriented policing.

The discussion then endorses the creation of multidisciplinary strategies tailored to meet the problems posed by particular drugs in particular places:

- Planning for drug control must not be centred on law enforcement agencies, and should involve coordinated actions from actors in a range of disciplines and government agencies.
- Enforcement agencies can participate, but need to move beyond a focus on punitively incarcerating individuals to look at ways of disabling the market, even when this means forgoing arrests.
- Although entrenched markets may be difficult to disable, they can be guided by enforcement action so that they do the least possible damage.

Finally, this chapter looks at ways the international community can build resistance to drug markets:

- Both cultivation and transit countries suffer from weakness in the rule of law; supporting the growth of institutional strength and integrity in these countries will make them more resistant to the trafficking of drugs and other forms of contraband.
- There remains great potential in the Conventions on Transnational Organised Crime and Corruption to collectively address the problem of global drug markets.
- There is a strong need to improve and develop international information sharing systems, so that progress can be measured and interventions evaluated.

A common thread throughout these proposals is the need to integrate the marginalised individuals, areas, and nations that cultivate, consume, and distribute drugs. These people need to be brought in, not pushed down. They will find it impossible to develop without getting beyond crime, but it is very difficult to get beyond crime without some prospect of development. It is incumbent on all in the international community to ensure that no one is faced with impossible choices, and that behaviour that benefits all of us is in the interest of each of us.

1 While the share of the global population living in poverty declined by half between 1981 and 2005, much of this is due to the growth of the Chinese economy. During the same period, the number of poor people in sub-Saharan Africa doubled, and little progress has been seen in reducing the number of poor in South Asia, Central Asia, Eastern Europe, Latin America, and the Middle East/North Africa. See: http://go.worldbank.org/VL7N3V6F20. The structural adjustment conditionalities of international lenders have been widely criticised as actually aggravating poverty, including by the World Health Organisation. See: http://www.who.int/trade/glossary/story084/en/index.html. It has even been asserted that, by providing an influx of unearned wealth, international aid can produce an effect similar to the "resource curse" and can have a negative impact of democracy. See Djankov, S., J. Montalvo and M. Reynal-Querol "The curse of aid". http://www.econ.upf.edu/docs/papers/downloads/870.pdf. Also Moyo, D. *Dead aid: Why aid is not working and how there is another way for Africa*. London: Allen Lane, 2009. International peacekeeping has been similarly criticised. The international community has been taken to task for both its actions and its failure to act, including in instances of genocide. Some have even argued that international efforts to build peace have the unintended consequence of prolonging civil wars, since the lack of a clear victor keeps grievances at a simmer. See Luttwak, E. 'Give war a chance'. *Foreign Affairs*, July/August 1999. There have been scandals in which peacekeepers have been found to be involved in criminal rackets, including human trafficking. Despite these issues, there is very little serious discussion of abandoning cooperative efforts to address poverty or conflict, only debate as to how best to improve current efforts.

2 There are, of course, other costs associated with drug criminalisation, including the mass incarceration of non-violent offenders and negative impact on the ability of people to access treatment.

3 "Ninety six percent of all countries (186 countries) are State Parties to the Single Convention on Narcotic Drugs of 1961. Ninety four percent (183 countries) are State Parties to the 1971 Convention on Psychotropic Substances. About the same number (182 countries) are State Parties to the 1988 Convention. These are among the highest rates of adherence to any of the United Nations multilateral instruments…" United Nations Office on Drugs and Crime, *Making drug control 'fit for purpose': Building on the UNGASS decade*. Presented to Commission on Narcotic Drugs, Fifty-first session, Vienna, 10-14 March 2008.

4 For example, Yale law professor Steven Duke recently opined we should, "…end[ ] the market for illegal drugs by eliminating their illegality. We cannot destroy the appetite for psychotropic drugs… What we can and should do is eliminate the black market for the drugs by regulating and taxing them as we do our two most harmful recreational drugs, tobacco and alcohol."

http://online.wsj.com/article/SB124061360462654683.html

Similarly, Harvard economist Jeffrey Miron recently argued, "The right policy … is to legalize drugs while using regulation and taxation to dampen irresponsible behavior related to drug use…This approach also allows those who believe they benefit from drug use to do so, as long as they do not harm others… Legalization is desirable for all drugs, not just marijuana. …It is impossible to reconcile respect for individual liberty with drug prohibition."

http://edition.cnn.com/2009/POLITICS/03/24/miron.legalization.drugs/index.html

Others have been cautious, arguing generally against "prohibition" while limiting discussion of taxation to cannabis. For example, Milton Friedman and 500 other economists endorsed a plan to legalise and tax cannabis in the United States in June 2005: http://www.prohibitioncosts.org/

5 World Bank, *Tobacco control in developing countries*. Oxford: Oxford University Press, 2000.

6 There are several ways drugs can kill, including their acute physical effects, their long term health impact, and their influence on behaviour. Neither alcohol nor tobacco are likely to kill the user through their acute effects; the same cannot be said of heroin or stimulant drugs, particularly for those with pre-existing health conditions. Long term health consequences have not been well studied for many of the illicit drugs, but heavy tobacco and cannabis smoking pose similar hazards. Unlike tobacco, alcohol can have an extremely dangerous impact on behaviour, but so can most of the currently illicit drugs. According to the Oxford Medical Companion (1994), "…tobacco is the only legally available consumer product which kills people when it is used entirely as intended." This would not be the case if drugs like crystal methamphetamine were legalised.

7 http://www.who.int/substance_abuse/facts/en/

8 United Nations Development Programme, *Human Development Report 2007/2008.* New York, UNDP, 2008.

9 Data on drug prices from WDR 2008; data on GDP per capita from Human Development Report 2007/2008. Restrictions on coca cultivation have softened since 2006, and the reported price of cocaine in Bolivia has dropped to US$3.50 per gram, despite the fact that cocaine remains illegal and seizures have increased. The impact this will have on cocaine use in Bolivia has yet to be evaluated, but there is evidence of rising problems with cheap cocaine base products throughout the region.

10 World Health Organisation, *Report on the global tobacco epidemic 2008*. Geneva: World Health Organisation, 2008, p. 271.

11 http://www.who.int/tobacco/mpower/appendix_2_the_americas.xls

12 WHO 2008 *op cit*, p. 20.

13 Food and Agricultural Organization, "Projections of tobacco production, consumption and trade to the year 2010", Rome: FAO, 2003.

14 World Health Organisation 2008, *op cit*., p. 12.

15 Framework Convention Alliance, "How big was the global illicit tobacco trade problem in 2006?" www.fctc.org/dmdocuments/fca-2007-cop-illicit-trade-how-big-in-2006-en.pdf

16 Food and Agricultural Organization, 2003, *op cit*.

17 *Ibid*.

18 See World Drug Report 2005.

19 Hozic, A. 'Between the cracks: Balkan cigarette smuggling'. *Problems of Post-Communism*. Vol 51, No 3. 2004, pp. 35-44.

20 See the forthcoming *Transnational Trafficking and the Rule of Law in West Africa: A threat assessment*. Vienna: UNODC, 2009.

21 Caulkins, J. and P. Reuter, 'Towards a harm-reduction approach to enforcement'. *Safer Communities*, Vol 8, No 1, 2009, p.12.

22 Age range in survey differs between countries: Denmark (16-64); Germany (18-64); United Kingdom (16-59); United States (12+) – all others, 15-64.

23 See endnote 24 below.

24 The International Narcotics Control Board was initially apprehensive when Portugal changed its law in 2001 (see their annual report for that year), but after a mission to Portugal in 2004, it "noted that the acquisition, possession and abuse of drugs had remained prohibited," and said "the practice of exempting small quantities of drugs from criminal prosecution is consistent with the international drug control treaties…"

25 This is different from the Dutch "coffeeshop" approach, where drug tourists are free to consume cannabis in certain premises without risking a summons from the police, and known cannabis vendors are allowed to advertise their outlets.

26 See the reports of the Instituto da Droga e da Toxicodependência: http://www.idt.pt

27 Eurostat, *Statistics in focus:* http://epp.eurostat.ec.europa.eu/cache/ITY_OFFPUB/KS-SF-08-019/EN/KS-SF-08-019-EN.PDF

28 http://www.emcdda.europa.eu/stats08/gpstab3

29 http://www.unodc.org/documents/data-and-analysis/Studies/Drug-

Trafficking-WestAfrica-English.pdf

30 Barrett, D., R. Lines, R. Schleifer, R. Elliott, and D. Bewley-Taylor, *Recalibrating the Regime: The Need for a Human Rights-Based Approach to International Drug Policy*. Beckley Foundation Report 13, 2008.

31 The best known examples come from the United States, in particular the Violent Crime Task Force in High Point, North Carolina.

32 This was the case in the Boston Gun Project, also known as "Operation Ceasefire". See, Braga, A., D. Kennedy, A. Piehl and E. Waring, *Reducing Gun Violence: The Boston Gun Project's Operation Ceasefire*. National Institute of Justice Research Report, NCJ 188741, September 2001. http://www.ncjrs.gov/pdffiles1/nij/188741.pdf

33 See World Drug Report 2008, p. 9. Note that this is different than the concept of "dependent drug users" explored elsewhere in this report, but the share of the adult population is roughly the same.

34 Greater London Alcohol and Drug Alliance, *London: The highs and lows 2*. London: Greater London Authority, 2007.

35 Leggett, T. 'Review of the world cannabis situation'. *Bulletin on Narcotics*. Volume LVIII, Nos. 1 and 2, 2006.

36 While estimates of this sort are hard to find, the Office of National Drug Control Policy has estimated that "heavy users" consumed 80% of the cocaine and 90% of the heroin in the United States in 1989. ONDCP, *What America's users spend on illicit drugs*. Washington, D.C.: Executive Office of the President, 1991, p. 25.

37 See, for example, the evaluation by Hawken and Kleiman of Project H.O.P.E: http://www.pewcenteronthestates.org/uploadedFiles/HOPE_Research_Brief.pdf

38 Home Office of the United Kingdom, Offender management caseload statistics 2005. *Home Office Statistical Bulletin* 18/06, December 2006, page 88.

39 Leggett, T. 'Why wait? By-laws and regulations for high-impact crime prevention'. *South Africa Crime Quarterly*, No 8, June 2004.

40 Or, as UN Habitat notes, "[after urban flight] ….'slumlords' attempt to extract profits from whomever remains, usually obtaining good returns at no outlay on their largely depreciated capital, no matter how low the rents." UN HABITAT, *Global report on human settlements 2003: The challenge of the slums*. Nairobi: UN Habitat, 2003, p 29.

41 Leggett, 2004, *op cit*.

42 According to Howell and Decker, "Most gang violence is endemic to gang life, separate from drug trafficking because of several reasons. Violence is a part of the everyday life of gang members, even when they are apart from the gang; it is in their neighbourhoods and within families. Second, conflict differentiates gangs from other law-violating youth groups. Third, violence is an expected part of their individual status and roles as gang members." Howell, J. and S. Decker, 'The Youth Gangs, Drugs, and Violence Connection.' United States Office of Juvenile Justice and Delinquency Prevention *Juvenile Justice Bulletin*. Washington, D.C.: United States Department of Justice, 1999, p. 8.

43 Levitt, S. And S. Venkatesh, 'An economic analysis of a drug-selling gang's finances'. *The Quarterly Journal of Economics*, August 2000. http://www.streetgangs.com/academic/gangfinance.pdf

44 Other techniques for breeding mistrust, such as the distribution of inert substances packaged to look like drugs (e.g. copycat ecstasy pills with popular logos) or the infiltration of user chat groups could also dampen the spread of the market.

45 Reuter, P. and J Haaga, *The organization of high-level drug markets: An exploratory study*. Washington, D.C., The Rand Corporation, 1989.

46 See, for example, Volume 19, Issue 4 of the *International Journal of Drug Policy* (2008).

47 Degenhardt, L., P. Reuter, L. Collins, and W. Hall, 'Evaluating explanations of the Australian "heroin shortage"'. *Addiction*, Vol 100, No 4, 2005, pp. 459–469.

48 Although "kitchen labs" for crystal methamphetamine have been an issue in the United States, a bit of precursor control can assure that this practice does not become widespread, and the smell and other hazards of homemade amphetamines manufacture tend to render small-scale production uncompetitive, particularly in urban areas.

49 Leggett 2006, *op cit*. Along these lines, the spread of low potency pollen in cultivation areas might be more effective than eradication.

50 Again, methamphetamine is a possible exception in areas where access to precursors is uncontrolled.

51 Government of Afghanistan and UNODC, *Afghanistan Opium Winter Rapid Assessment, January 2009*. Kabul: UNODC, 2009, p. 15.

52 See, for example, Baumer, E., J. Lauritsen, R. Rosenfeld, and R. Wright, 'The Influence of Crack Cocaine on Robbery, Burglary, and Homicide Rates: A Cross-City, Longitudinal Analysis'. *Journal of Research in Crime and Delinquency*, Vol 35, No 3, 1998, pp. 316-340.

53 See the discussion on "set and setting" in the opening chapter of Reinarman and Levine's *Crack in America*. Los Angeles, University of California Press, 1997.

54 See Leggett 2006, *op cit*.

55 Tragler, G., J. Caulkins, and G. Feichtinger, 'Optimal Dynamic Allocation of Treatment and Enforcement in Illicit Drug Control'. *Operations Research*, 2001, Vol 49, No 3, pp. 352-362.

56 During the first session of the Convention negotiations, held between 19 and 29 January 1999, various definitions of "organized crime" were discussed, most of which related to participation in a group. In the negotiation text submitted by France, for example, organised crime was defined as "the activities pursued [the acts committed] within the framework of [in relation to] a criminal organization." UNODC, *Travaux préparatoires of the negotiations for the elaboration of the United Nations Convention against Transnational Organized Crime and the Protocols thereto*. Vienna: UNODC, 2006, p. 7.

57 This point is further made clear in the protocol's definition of human trafficking, which requires no cross-border movement.

58 http://www.unodc.org/documents/data-and-analysis/Caribbean-study-en.pdf

59 Europol, *European Union Situation Report on Drug Production and Drug Trafficking 2003 – 2004.* The Hague: Europol, 2005.

60 http://www.unodc.org/documents/data-and-analysis/Balkan_study.pdf

61 UNODC, *Crime and its impact on the Balkans and affected countries*. Vienna: UNODC, 2008.

62 *Ibid*.

63 *Ibid*.

64 UNODC, *Crime and development in Central America: Caught in the crossfire*. Vienna: UNODC, 2007.

65 Forthcoming, 2009.

66 For more on this idea, see Kleiman, M. *Against excess: Drug policy for results*. New York: Basic Books, 1993.

67 Collier, P. *The bottom billion: Why the poorest countries are failing and what can be done about it*. Oxford: Oxford University Press, 2007.

68 *Ibid*, p. 27.

3. STATISTICAL ANNEX

3.1 Production

3.1.1 Afghanistan

Fact Sheet[1] - Afghanistan Opium Survey 2008[2]

	2007	Change on 2007	2008
Net opium poppy cultivation (after eradication)	193,000 ha (177,000-209,000 ha)	-19%	157,000 ha (130,000-190,000 ha)
in per cent of agricultural land[3]	2.5%		2.1%
Number of poppy-free provinces (out of 34)	13	+38%	18
Eradication	19,047 ha	-71%	5,480 ha
Weighted average opium yield	42.5 kg/ha	+15%	48.8 kg/ha
Potential production of opium	8,200 mt (7,530-8,960 mt)	-6%	7,700 mt (6,330-9,308 mt)
Number of households involved in opium cultivation	509,000 (437,000-653,000)	-28%	366,500 (315,000-470,000)
Number of persons involved in opium poppy cultivation	3.3 million	-28%	2.4 million
in per cent of total population[4]	13.7%		9.8%
Average farm-gate price (weighted by production) of fresh opium at harvest time	US$ 86/kg	-19%	US$ 70/kg
Average farm-gate price (weighted by production) of dry opium at harvest time	US$ 122/kg	-22%	US$ 95/kg
Current GDP[5]	US$ 8.2 billion		US$ 10.2 billion
Total farm-gate value of opium production	US$ 1 billion (0.912-1.088)	-27%	US$ 730 million (601-885)
in per cent of GDP	12%		7%
Potential export value of opium, morphine and heroin (border areas of neighbouring countries)	US$ 4 billion (3.5-4.5 billion)		US$ 3.4 billion (2.7-4.3 billion)
Indicative gross income from opium per ha/year	US$ 5,200	-10%	US$ 4,662
Indicative gross income from wheat per ha/year	US$ 546	+198%	US$ 1,625

1 The information in this section comes from the Afghanistan Opium Survey 2008 (UNODC/Ministry of Counter Narcotics, Afghanistan, November 2008), and can also be found at http://www.unodc.org/unodc/en/crop-monitoring/index.html. Source unless otherwise indicated: National monitoring system supported by UNODC.

2 The figures in brackets represent the lower and upper limits of the 90% confidence interval

3 The area available for agriculture has been updated by UNODC based on Landsat 7 ETM images.

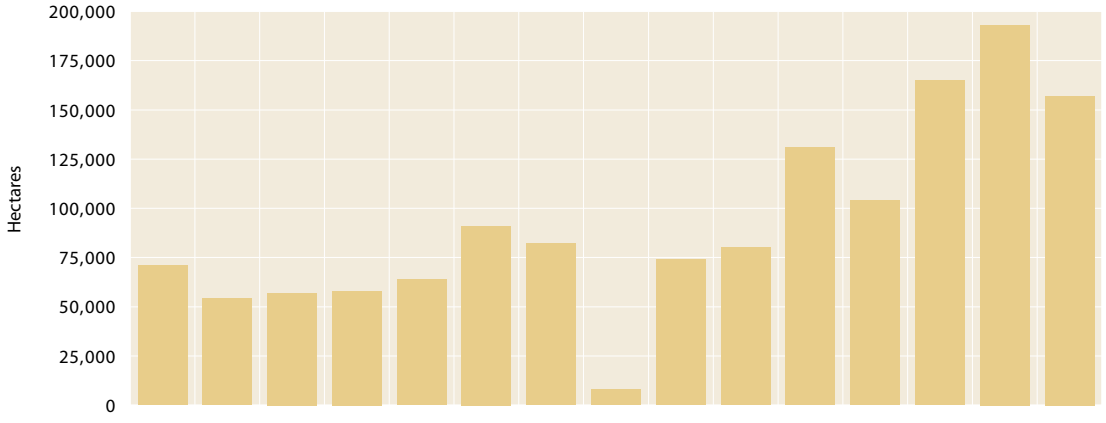
4 Population 24.1 million in Afghan year 1385 (April 2006 to March 2007) and 24.5 million in Afghan year 1386 (April 2007 to March 2008); source: Afghan Government, Central Statistical Office.

5 GDP Afghan year 1385 (April 2006 to March 2007), revised figure, and GDP for Afghan year 1386 (April 2007-March 2008; preliminary estimates); GDP growth in constant Afghanis amounted to 16.2% in the Afghan year 1386, up from 11.2% in the Afghan year 1385; source: Government of Afghanistan, Central Statistical Office. The inflation (change in the Consumer Price Index) amounted to 16.9% in 2007 and 27.1% over the first two quarters of 2008 (Source: IMF International Financial Statistics, October 2008). Foreign exchange rate of the Afghan currency remained practically unchanged (2006: Afghanis 49.93; 2007: Afghanis 49.96; first two quarters of 2008: Afghanis 49.65 for US$ 1).

Cultivation and eradication

The total opium poppy cultivation in 2008 in Afghanistan was estimated at 157,000 ha, a reduction of 19% compared to 2007. Almost the entire cultivation (98%) was confined to seven out of 34 provinces, all of which had security problems: five of these provinces were in the south (Hilmand, Kandahar, Uruzgan, Daykundi and Zabul provinces) and two in the west of Afghanistan (Farah and Nimroz provinces). In 2008, 18 provinces were poppy-free, five more than 2007. This included the eastern province of Nangarhar, which, in 2007, had the second largest area under opium poppy cultivation in the country. Only a very small portion of the total cultivation took place in the north (Baghlan and Faryab provinces), north-east (Badakhshan province) and east (Kunar, Laghman and Kapisa provinces). Together, these provinces accounted for less than 2% of cultivation. Eradication activities in 2008 were severely affected by resistance from insurgents. In 2008, a total of 5,480 ha of eradicated opium poppy fields were verified by the Ministry of Counter Narcotics, Afghanistan/UNODC. This included governor-led eradication (4,306 ha) and eradication led by the centrally controlled Poppy Eradication Force (1,174 ha).

Afghanistan, opium poppy cultivation (ha), 1994-2008

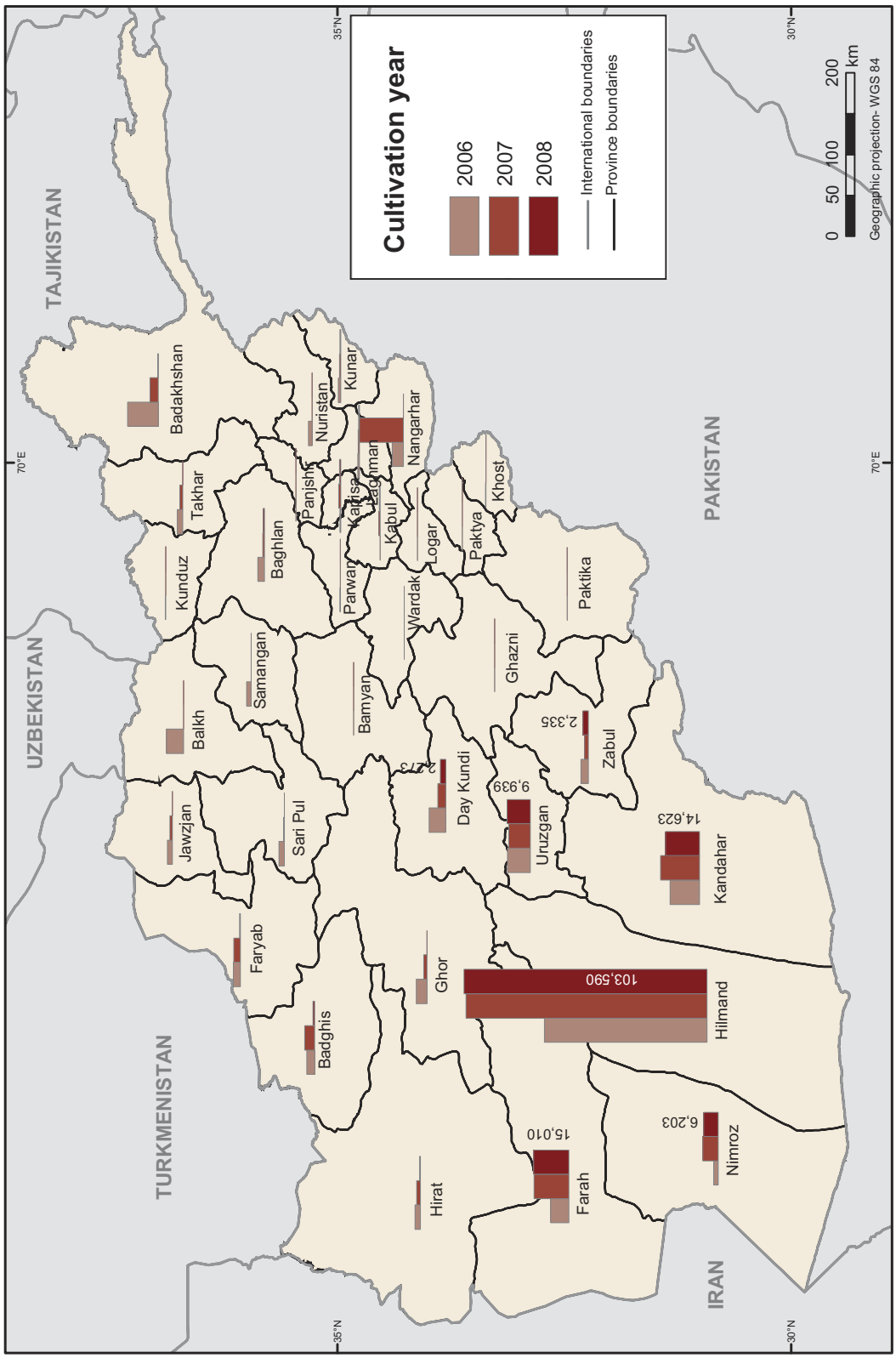


	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Cultivation	71,000	54,000	57,000	58,000	64,000	91,000	82,000	8,000	74,000	80,000	131,00	104,00	165,00	193,00	157,00

Afghanistan, regional distribution of opium poppy cultivation (ha), 2007-2008

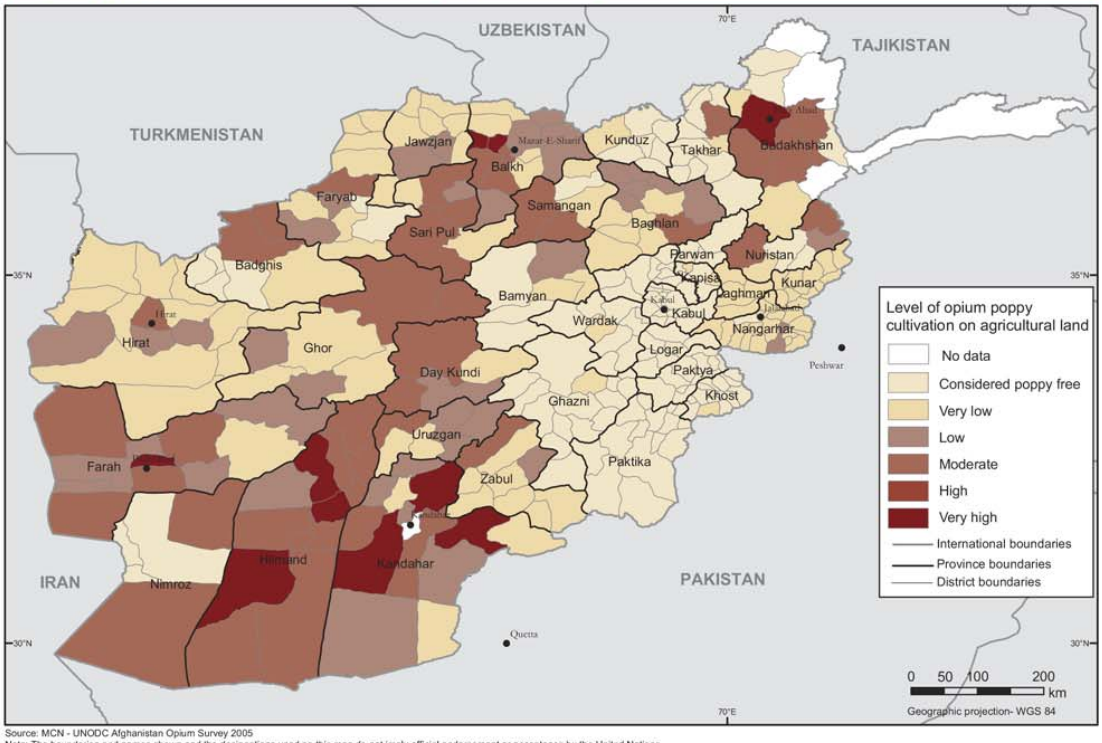
Region	2007 (ha)	2008 (ha)	Change 2007-2008	2007 (ha) as % of total	2008 (ha) as % of total
Southern	133,546	132,760	-1%	69%	84%
Northern	4,882	766	-84%	3%	0.5%
Western	28,619	22,066	-23%	15%	14%
North-eastern	4,853	200	-96%	3%	0.1%
Eastern	20,581	1,151	-94%	11%	0.7%
Central	500	310	-38%	0.3%	0.2%
Rounded total	193,000	157,000	-19%	100%	100%

Opium poppy cultivation in Afghanistan, 2006 – 2008



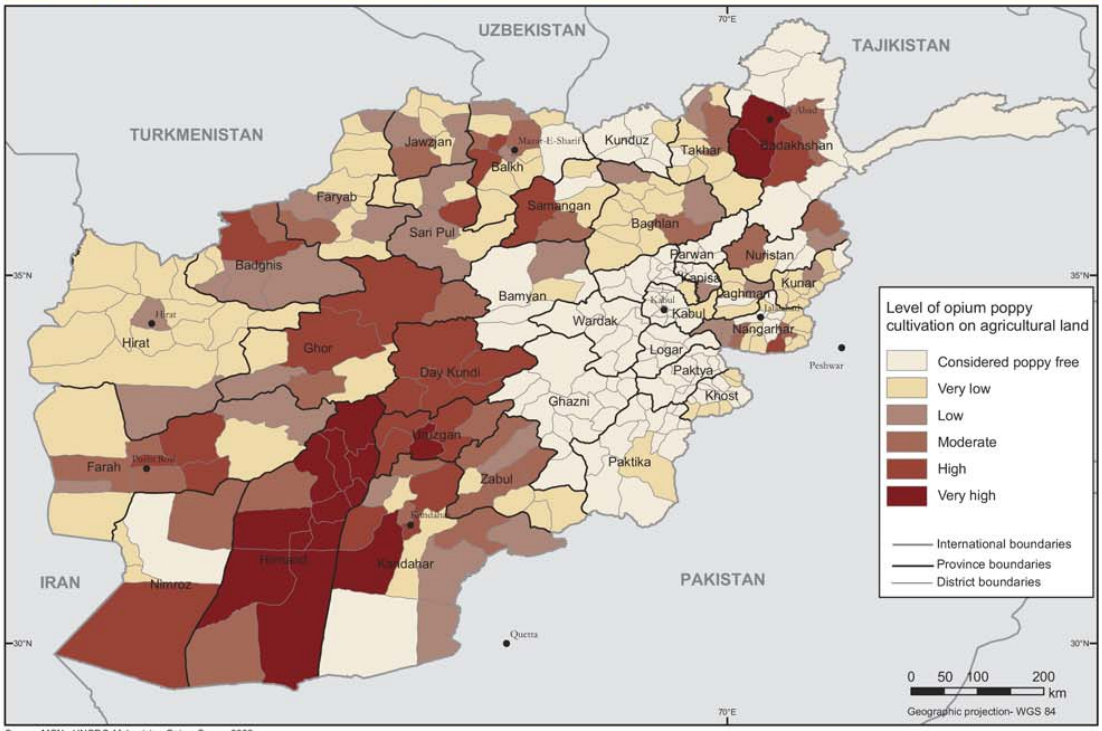
Source: MCN - UNODC Afghanistan Opium Survey 2008
Note: The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.

Opium poppy cultivation in Afghanistan (at district level) 2005



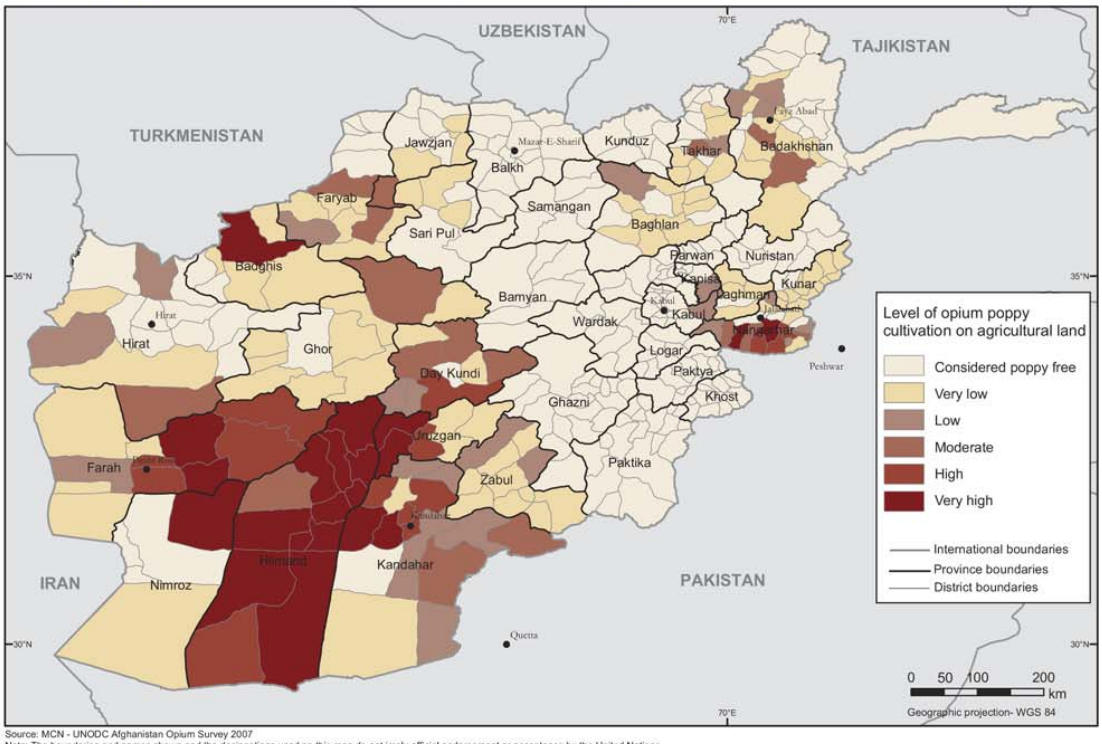
Source: MCN - UNODC Afghanistan Opium Survey 2005
Note: The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.

Opium poppy cultivation in Afghanistan (at district level) 2006



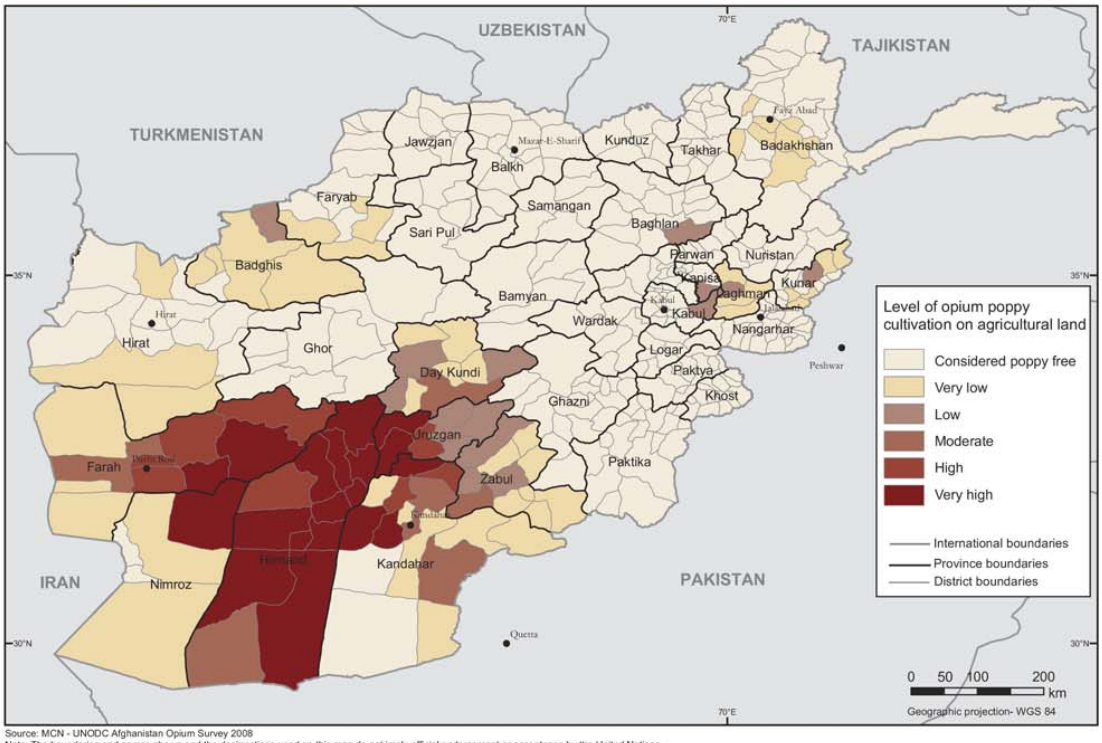
Source: MCN - UNODC Afghanistan Opium Survey 2006
Note: The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.

Opium poppy cultivation in Afghanistan (at district level) 2007



Source: MCN - UNODC Afghanistan Opium Survey 2007
Note: The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.

Opium poppy cultivation in Afghanistan (at district level) 2008



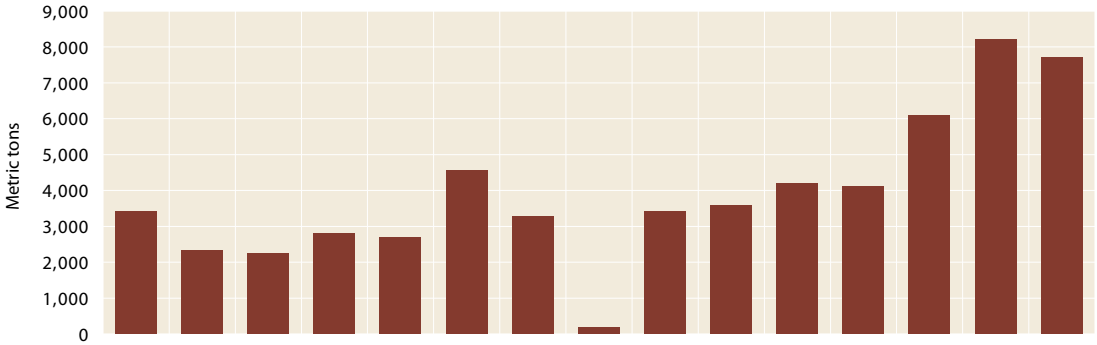
Source: MCN - UNODC Afghanistan Opium Survey 2008
Note: The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.

Production

The total opium production in 2008 was estimated at 7,700 mt, a reduction of 6% compared to 2007. Due to higher than average yields in the seven provinces where most of the opium poppy cultivation took place, the decrease in production was smaller than the decrease in cultivation.

Taking domestic consumption of opium, seizures and opium exports into account, Afghanistan's morphine and heroin production destined for export was estimated at 630 mt in 2008, a decrease of 5% compared to 666 mt in 2007.

Afghanistan, potential opium production (mt), 1994-2008

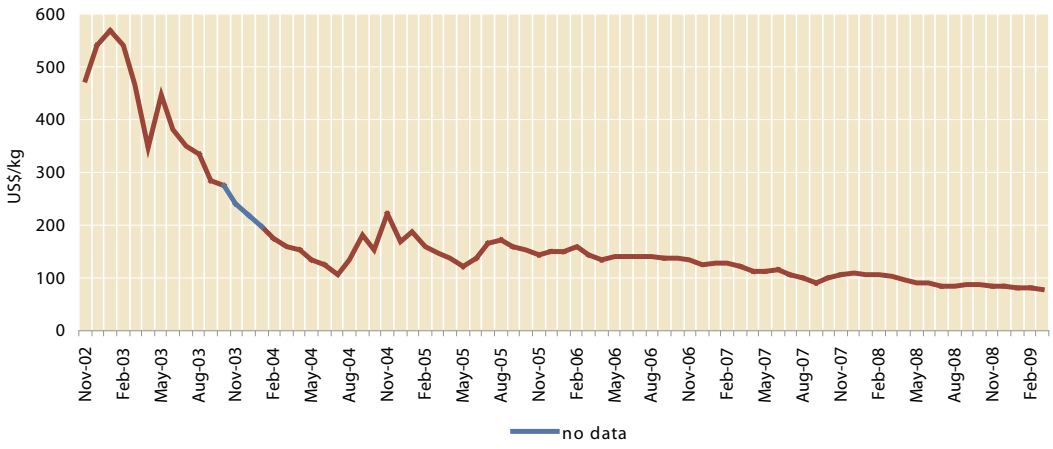


	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Production	3,416	2,335	2,248	2,804	2,693	4,565	3,276	185	3,400	3,600	4,200	4,100	6,100	8,200	7,700

Prices

Farm-gate prices for dry opium at harvest time decreased by 22% to US$ 95/kg in 2008, compared to US$ 122/kg in 2007 (price weighted by production). Regional trader prices for dry opium decreased in all regions except the Central Region. Prices fell by 30% in the Eastern Region, 20% in the Northern, 20% in the Southern and 17% in the Western Region. In general, in 2008, regional trader price differences were less pronounced than in the three previous years. Regional prices tended to be higher in the Eastern and Western Regions, which are thought to be the two main exit routes for opium and heroin exports, and low in the South, where the bulk of opium production occurs. Low prices can be a consequence of many factors, including difficult marketability of opium due to law enforcement activities, cost of transport from northern to southern Afghanistan for heroin production and onward trafficking to other countries, or a high volume of opium being offered on the market.

Afghanistan, monthly farm-gate prices of dry opium (US$/kg), Nov 2002 - Mar 2009

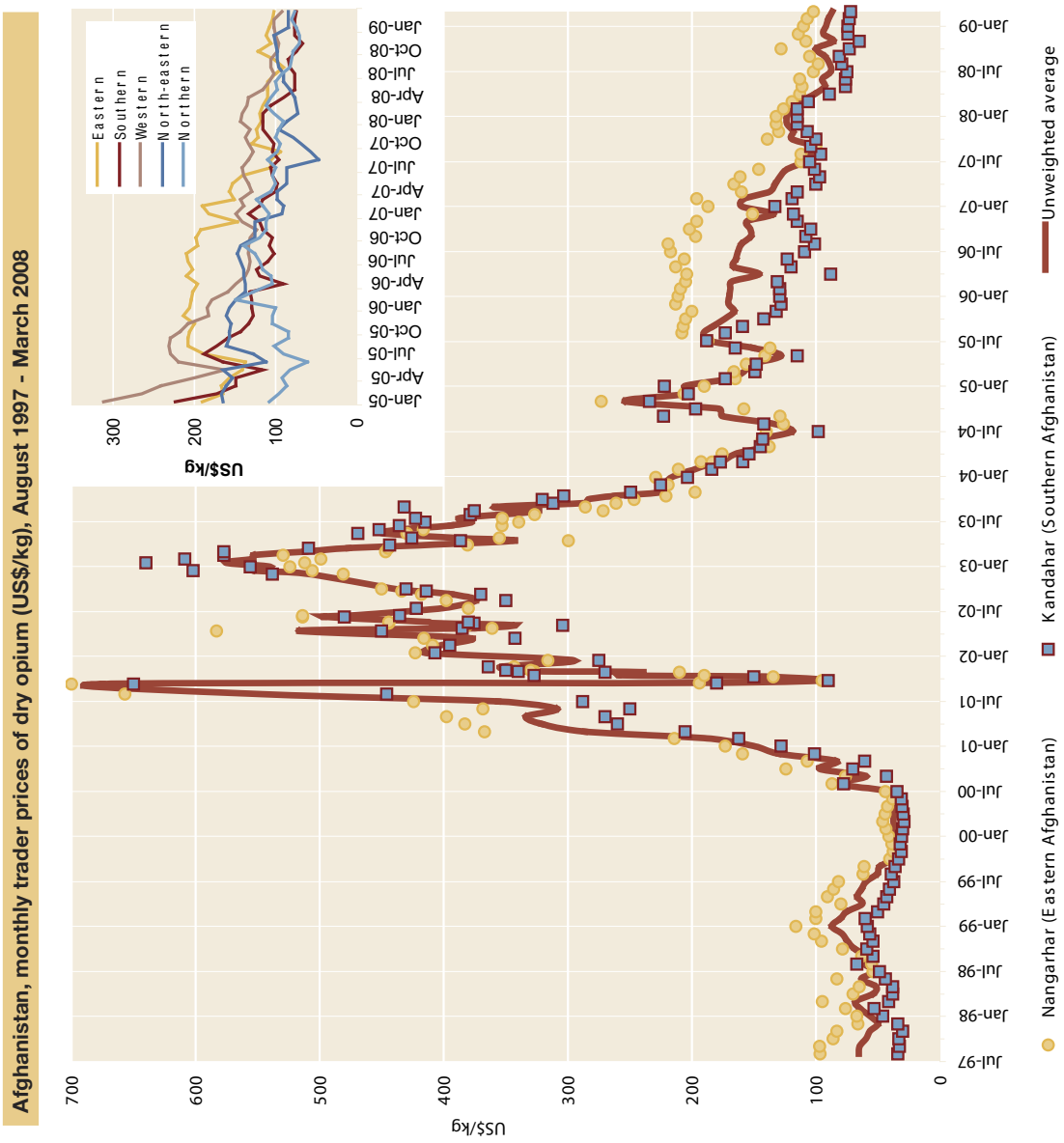


Farm-gate value

The gross income for farmers who cultivated opium poppy was estimated at US$ 730 million in 2008. This is a decrease from 2007, when farm-gate income for opium was estimated at US$ 1 billion. The farm-gate value of opium as a proportion of GDP decreased in 2008 to 7% compared to 12% in 20076. The total farm-gate income from opium in Afghanistan is calculated based on dry opium prices at harvest time.

Households involved

In 2008, the survey estimated that 366,500 families were involved in opium poppy cultivation compared to 509,000 families in 2007 (a decrease of 28%). Given an average of 6.5 members per family, this represents an estimated total of about 2.4 million persons, or 9.8% of Afghanistan's population of 24.5 million.



6 These percentages were calculated considering the 2007 GDP estimated by the Central Statistical Office of Afghanistan at US$ 10.2 billion.

3.1.2 Bolivia (Plurinational State of)

Fact Sheet Bolivia Coca Survey 2008[1]

	2007	Change on 2007	2008
Coca cultivation	28,900 ha	+6%	*30,500 ha*
Of which in the Yungas of La Paz	*19,800 ha*	+5%	*20,700 ha*
in Chapare	*8,800 ha*	+8%	*9,500 ha*
in Apolo	*300 ha*	+0%	*300 ha*
Of which permitted by Bolivian law 1008	*12,000 ha*		*12,000 ha*
Production of sun-dried coca leaf	51,000 mt	+6%	*54,000 mt*
Potential production of cocaine HCl	104 mt	+9%	*113 mt*
National weighted average farm-gate price of coca leaf (outside state market)	US$ 4.1/kg	+32%	*US$ 5.4 Kg*
Total farm-gate value of coca leaf production	US$ 214 million		n.a.
GDP[2]	US$ 9.1 billion		
Farm-gate value of coca leaf production in per cent of GDP	2.4%		
Farm-gate value of coca leaf production in per cent of value of 2007 agricultural sector	16%		
Reported eradication of coca bush*	6,269 ha	-13%	5,484 ha
Reported seizure of sun-dried coca leaves*	1,730 mt	+21%	2,095 mt
Reported seizure of cocaine base*	14,912 kg	+25%	18,584 kg
Reported seizure of cocaine HCl*	2,923 kg	+148%	7,246 kg
Reported destruction of coca laboratories[3]*	4,087	+22%	4,999
Of which cocaine HCl processing laboratories	6		

* As reported by the Government of the Plurinational State of Bolivia.

Cultivation and eradication

In 2007, the total area under coca cultivation in Bolivia increased by 6% to 30,500 ha, the third consecutive yearly increase. Overall, cultivation levels remained well below the levels reached in the early and mid-1990s. Increases in the country's two largest cultivation regions, the Yungas of La Paz and Chapare, occurred roughly at the same rate.

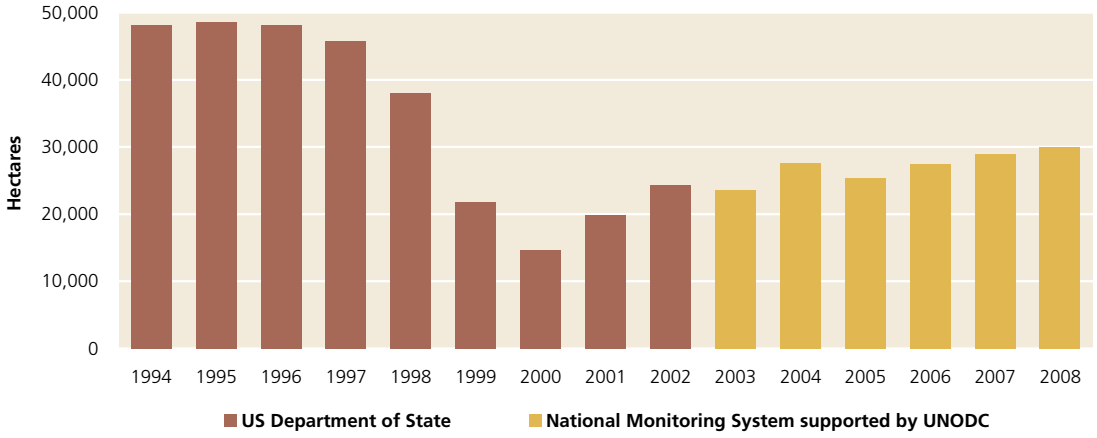
The Government of the Plurinational State of Bolivia reported 5,484 ha of eradication of coca bush, which is less than in 2007 but more than in 2005.

1 The information in this section comes from the report on Coca Cultivation in Bolivia (UNODC/Government of Bolivia, June 2009), and can also be found at http://www.unodc.org/unodc/en/crop-monitoring/index.html

2 Source: Instituto Nacional de Estadística de Bolivia (INE).

3 Excluding coca leaf maceration pits.

Bolivia, coca cultivation (ha), 1994-2008



Production

In 2007, potential cocaine production in Bolivia increased by 9% to113 mt. The increase in cocaine production is more pronounced than for the area under coca cultivation. This is because areas of relatively low yield where coca leaf is produced for traditional purposes have not been included.

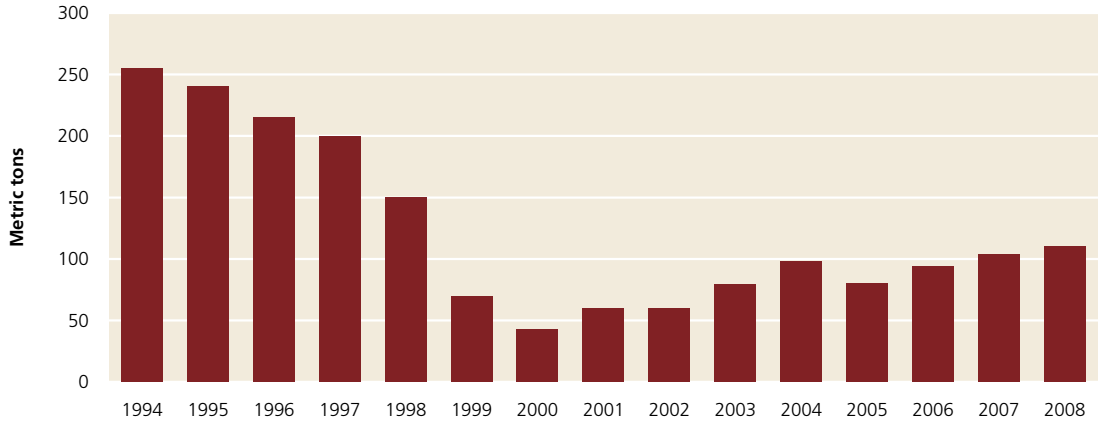
Prices

Farm-gate prices of sun-dried coca leaf in Chapare Region outside the state-controlled market experienced a strong increase in 2008 and reached a level of over US$ 6/kg (average US$5.5/kg), which was last reached in 2002. However, information from the first months of 2009 indicates a return to prices of around US$ 4/kg after good coca leaf harvests in the preceding rainy season. Coca leaf prices in the Yungas of La Paz, on the other hand, remained relatively stable over the course of the year. The monthly average price ranged from 36 bolivianos (Bs) or US$ 5.1/kg to Bs 39 or US$ 5.3/kg. The annual average is of Bs 38 was similar to 2007, however, expressed in US$ terms, it increased from US$ 4.8/kg in 2007 to US$ 5.2/kg in 2008 due to a change in the currency exchange rate.

The annual average price of sun-dried coca leaf in the state-controlled market increased significantly both in Bolivianos and US$ terms, from an average of Bs 35 or US$ 4.6/kg in 2007 to Bs 44 or US$ 6.1/kg in 2008 (weighted by the amount of coca leaf traded in the state-controlled markets of Sacaba in Chapare region and Villa Fatima in La Paz).

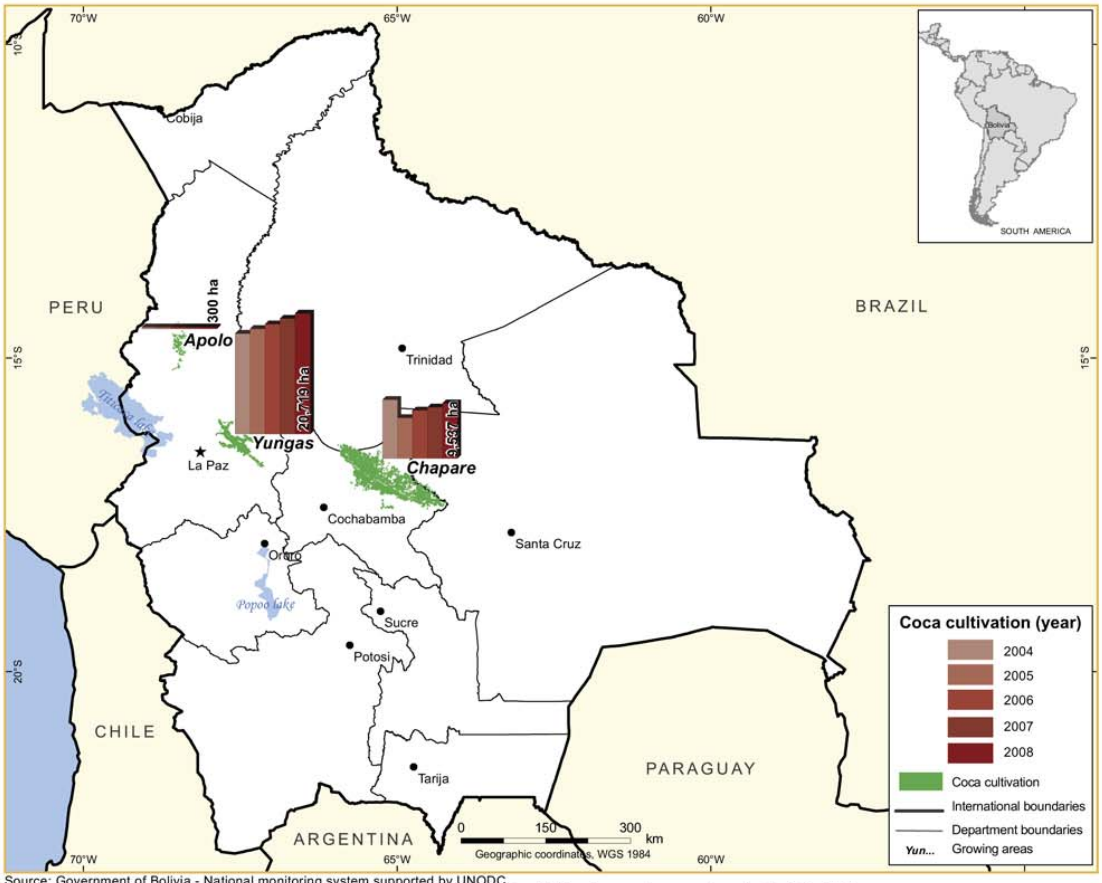
Bolivia, potential cocaine production (mt), 1994-2008

Note: Production estimates for 2004 and 2005 were updated in 2007 based on a new UNODC study on coca leaf yield in the Yungas of La Paz.
Sources: 1994-2002: Comisión Interamericana para el Control del Abuso de Drogas (CICAD) and US Department of State, *International Narcotics Control Strategy Report.* Since 2003: UNODC calculations, partly based on UNODC coca leaf yield surveys.



Bolivia, monthly farm-gate prices of sun-dried coca leaf, Chapare Region (US$/kg), 1990-2008

Bolivia, coca cultivation by region 2004-2008



Source: Government of Bolivia - National monitoring system supported by UNODC
The boundaries and names shown and the designation used on this map do not imply official endorsement or acceptance by the United Nations

3.1.3 Colombia

Fact sheet – Coca Survey 2008[1]			
	2007	**Change on 2007**	**2008**
Net coca cultivation (rounded total) *Of which in Pacific region* *Central region* *Putumayo-Caquetá region* *Meta-Guaviare region* *elsewhere*	99,000 ha *25,960 ha* *20,950 ha* *21,130 ha* *19,690 ha* *11,170 ha*	-18% *+15%* *-11%* *-34%* *-38%* *-44%*	81,000 ha *29,920 ha* *18,730 ha* *13,960 ha* *12,150 ha* *6,200 ha*
Potential production of cocaine	600 mt	-28%	430 mt
Average farm-gate price of coca paste	US$ 943/kg COP 1,959,000/kg	+2% -4%	US$ 963/kg COP 1,887,855/kg
Average wholesale price of cocaine*	US$ 2,198/kg COP 4,567,000/kg	+7% 0%	US$ 2,348/kg COP 4,580,000/kg
Total farm-gate value of the production of coca leaf and its derivatives	US$ 934 million	- 53%	US$ 441 million
in per cent of GDP in per cent of agricultural sector	0.5% 5%		0.3% 2%
Reported aerial spraying of coca bush*	153,134 ha	-13%	133,496 ha
Reported manual eradication of coca bush*	66,805 ha	+43%	95,634 ha
Reported seizure of cocaine*	126,641 kg	+63%	206,100 kg
Reported destruction of coca processing laboratories*	2,360	-6%	2,207
Of which cocaine HCl processing lab.	*265*		636
Reported opium poppy cultivation*	714 ha	-45%	394 ha
Potential opium latex production	34 mt*	n.a.	31 mt**
Potential heroin production (rounded)	1.4 mt*	n.a.	1.3 mt**
Average farm-gate price of opium latex	US$ 286/kg	+11%	US$ 318/kg
Average heroin price	US$ 10,780/kg	-8%	US$ 9,950/kg
Reported seizure of heroin	537 kg		696 kg

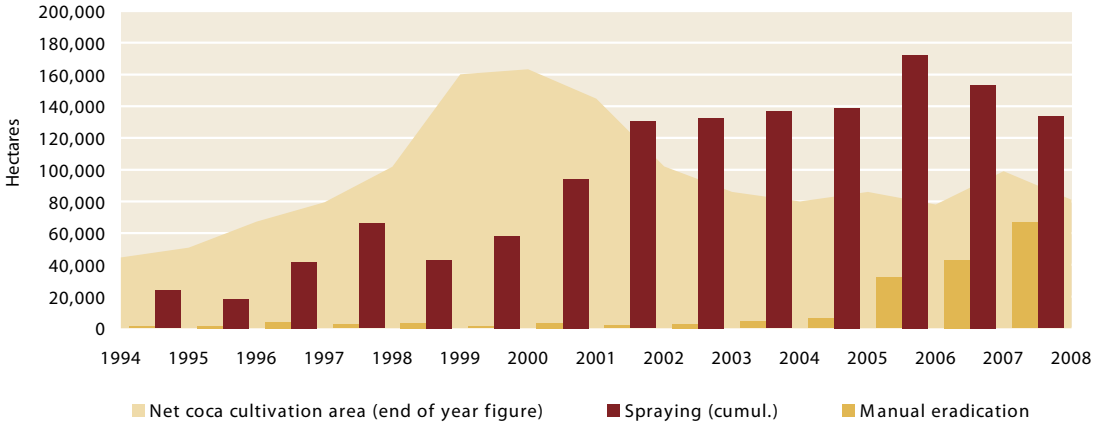
* As reported by the Government of Colombia. Figures for 2008 are preliminary.

** Own calculations based on regional yield figures and conversion ratios from US Department of State.

1 The information in this section comes from the report on Coca Cultivation in Colombia (UNODC/Government of Colombia, June 2009), and can also be found on the internet (http://www.unodc.org/unodc/en/crop-monitoring/index.html). Source unless otherwise indicated: National monitoring system supported by UNODC.

Colombia, Coca cultivation and reported eradication/spraying (ha), 1994-2008

Sources: Cultivation: 1994-1998: CICAD and US Department of State, International Narcotics Control Strategy Report; since 1999: National Illicit Crop Monitoring System supported by UNODC; eradication/spraying: Government of Colombia.



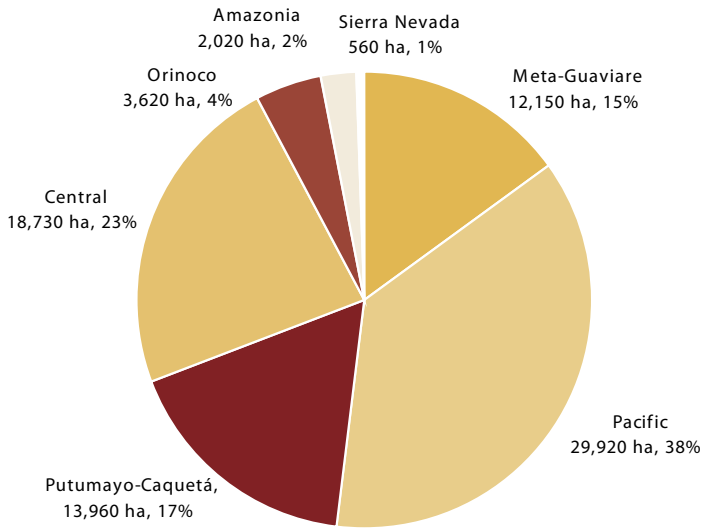
Cultivation and eradication

In 2008, the area under coca cultivation decreased by 18% to 81,000 ha, roughly the same level as in 2006. Most of the decrease of 18,000 ha took place in the regions of Meta-Guaviare, Putumayo-Caquetá and Orinoco. On the other hand, a significant increase was observed in the Pacific region as well as in some smaller cultivation regions. Thus, the Pacific region remained the region with the largest area under coca cultivation, with just below 30,000 ha or 38% of the total area, followed by the Central region (23%), Putumayo-Caquetá (17%) and Meta-Guaviare (15%).

The Colombian authorities continued to intensify manual eradication activities, which increased by 43% and reached a record high of 95,634 ha in 2008. In the Departments of Putumayo and Antioquía (Central region) alone, 30,834 ha and 19,366 ha were eradicated, respectively. In addition, in 2008, more than 133,000 ha of coca bush were sprayed in 14 Departments. Most spraying took place in the Department of Nariño (Pacific region), where over 54,000 ha were sprayed, followed by Guaviare, Putumayo, Caquetá and Antioquía.

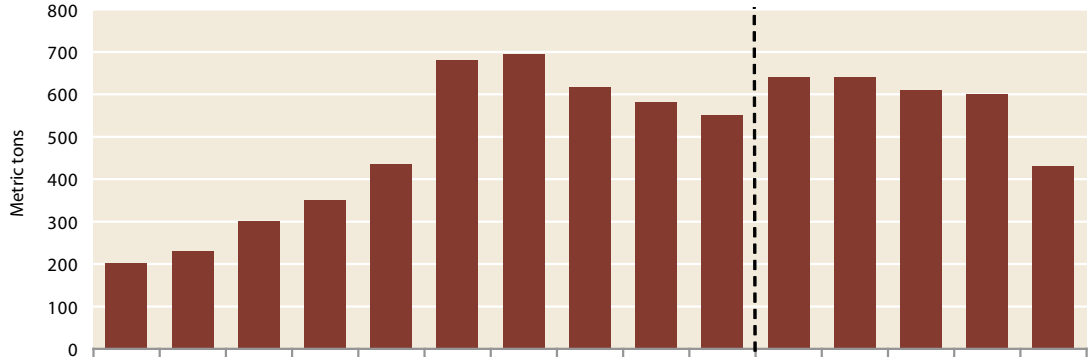
Colombia, coca cultivation by region, 2008

Source: National Illicit Crop Monitoring System supported by UNODC



Colombia, potential cocaine production (mt), 1994-2008

Note: Cocaine production estimates for 2004 and later are not directly comparable with previous years.
Sources: see Table 5 Global illicit cultivation of coca bush and production of coca leaf and cocaine.



	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Production	201	230	300	350	435	680	695	617	580	550	640	640	610	600	430

Production

In 2008, the potential cocaine production in Colombia was estimated at 430 mt, much lower than in any of the four preceding years for which comparable data is available. The reduction in potential cocaine production (-28%) was more pronounced than the decrease in area under coca cultivation (-18%). Among other reasons, this was due to strong area decreases in some of the main coca cultivation regions (Meta-Guaviare, Putumayo-Caquetá and Orinoco), which were only partly counterbalanced by area increases in Pacific and other regions with average or below average yields. Lower coca leaf yields in Meta-Guaviare and Putumayo-Caquetá also contributed to the overall reduction in potential cocaine production.

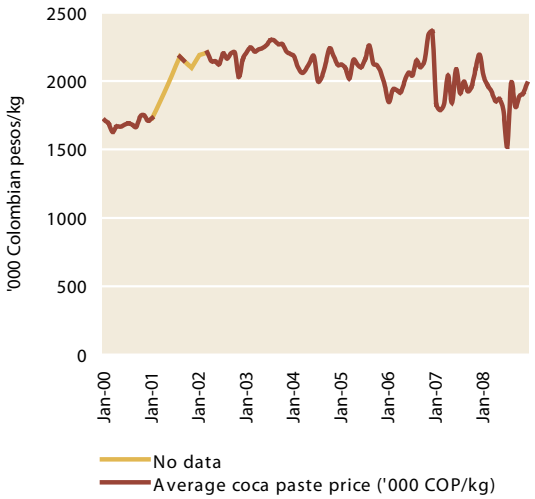
Prices for coca leaf, cocaine and opium

UNODC's monitoring of coca leaf prices in Colombia is not yet fully developed and the availability of monthly average farm-gate prices differs from region to region and over the course of a year. Thus, small-scale price changes should be interpreted with caution. Farm-gate prices are also thought to be influenced by armed groups who are able to control prices in their region of influence.

Farm-gate prices in Colombian pesos (COP) for coca leaf and derivatives changed little in 2008 compared to 2007. Over the last three years, farm-gate prices for coca leaf and paste were decreasing, despite higher costs of agricultural inputs and precursors necessary for producing coca paste. On average, the per kilo price of fresh coca leaf decreased from COP 2,400/kg or US$ 1.2/kg in 2007 to COP 2,200/kg or US$ 1.1/kg in 2008.

Farm-gate prices of coca paste have seemed relatively

Colombia, monthly farm-gate prices of coca paste ('000 COP/kg), Jan. 2000 to Dec. 2008

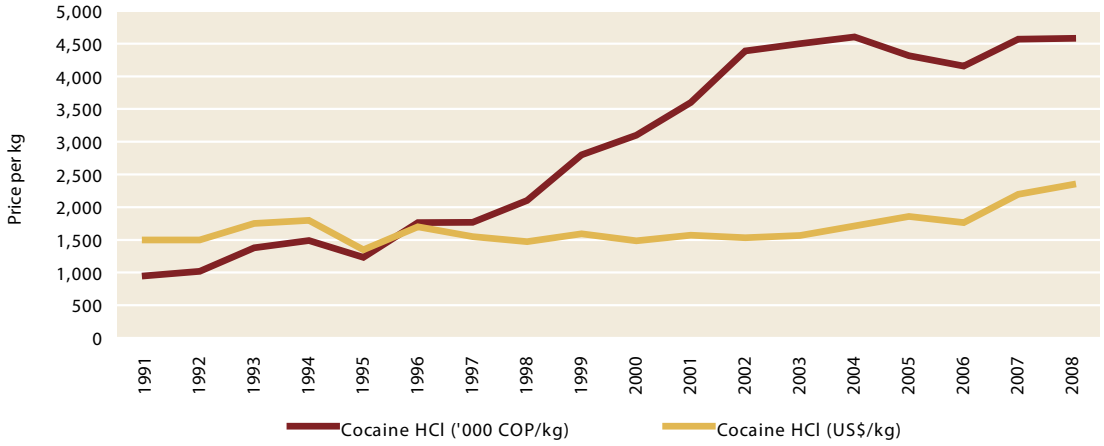


stable or slightly declining since 2004. Regional price averages ranged between a maximum of COP 2,056,000/kg in the Central region and a minimum of COP 1,714,583/kg in the Pacific region. In 2007, both the regional maximum and minimum prices were slightly higher with a maximum of 2,121,107/kg observed in the Central region and the minimum at COP 1,772,677/kg in the Putumayo-Caquetá region.

Coca leaf, which in Colombia is sold as fresh leaf (not sun-dried as in Bolivia and Peru), and coca paste, which many farmers in Colombia produce on the farm, are traded in Colombian pesos. Cocaine at the wholesale level, however, is thought to be traded mainly in US dollars. Wholesale prices of cocaine in Colombian cities

Colombia, annual wholesale prices of cocaine HCl (US$/kg and '000 COP/kg), 1991-2008

Note: Prices of unknown purity in major cities of Colombia. Source: Colombian Directorate of Anti-Narcotics (DIRAN).

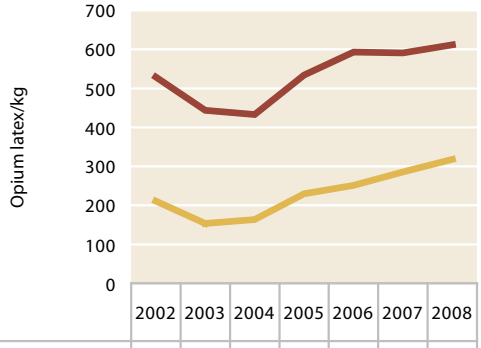


increased by 7% in US dollar terms from US$ 2,198/kg in 2007 to US$ 2,348/kg in 2008. In Colombian peso terms, however, prices did practically not change, due to a stronger peso.

The trend of increasing farm-gate prices observed since 2004 in both US dollar and Colombian peso terms for opium latex continued in 2008. However, wholesale prices for heroin decreased compared to 2007. According to reports of the Government of Colombia, the area under opium poppy cultivation shrank to a few hundred hectares.

Colombia, farm-gate opium latex prices, 2002-2008

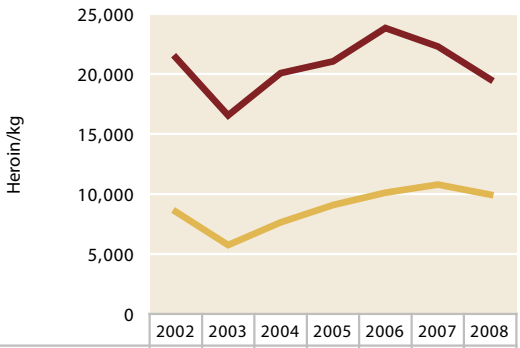
Source: DIRAN



	2002	2003	2004	2005	2006	2007	2008
Opium latex ('000 COP/kg)	529	444	433	534	593	591	612
Opium latex (US$/kg)	211	154	164	230	251	286	318

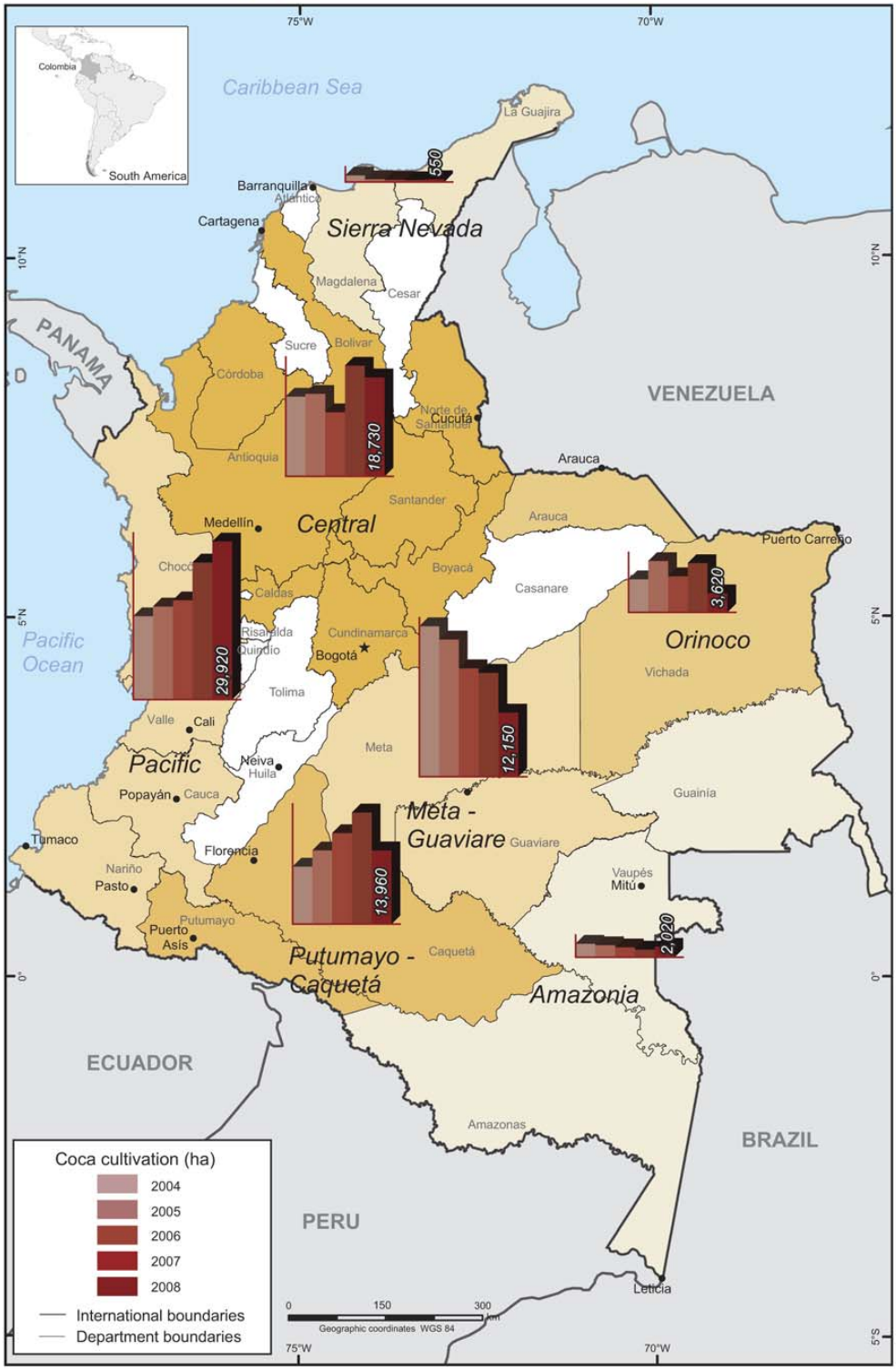
Colombia, farm-gate wholesale heroin prices, 2002-2008

Source: DIRAN



	2002	2003	2004	2005	2006	2007	2008
Heroin ('000 COP/kg)	21370	16561	20067	21051	23822	22294	19560
Heroin (US$/kg)	8520	5740	7635	9070	10103	10780	9950

Colombia, coca cultivation by region, 2004-2008



Source: Government of Colombia - National monitoring system supported by UNODC
The boundaries and names shown and the designations used in this map do not imply official endorsement or acceptance by the United Nations

3.1.4 Lao People's Democratic Republic

Fact Sheet – Lao PDR Opium Survey 2008[1]

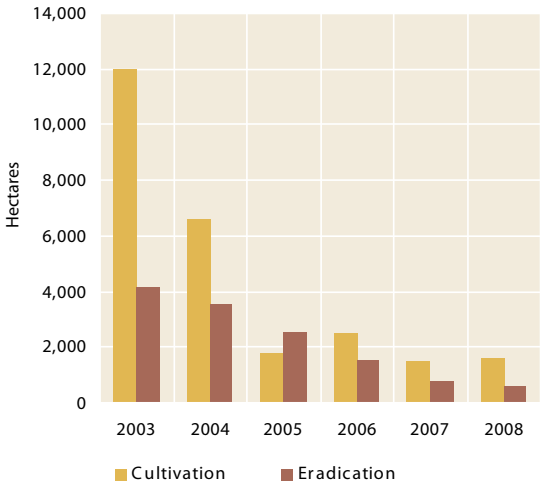
	2007	Change on 2007	2008
Opium poppy cultivation[2]	1,500 ha (1,230-1,860 ha)	+7%	1,600 ha (711-2,687 ha)
Average dry opium yield	6 kg/ha	-	6 kg/ha[3]
Potential production of dry opium	9.0 mt	+7%	9.6 mt
Average retail/wholesale price of opium[4]	US$ 974/kg	+26%	US$ 1,227/kg
Eradication[5]	779 ha	-26%	575 ha
Number of new opium addicts	7,700	-36%	4,906[6]
Average drug prevalence rate (in northern Lao PDR)	0.30%		0.19%

Cultivation and eradication

In 2008, opium poppy cultivation was found in all six surveyed provinces in the north of Lao PDR (Phongsaly, Luang Namtha, Oudomxay, Luang Prabang, Xieng Khouang and Huaphanh provinces). The total area under opium poppy cultivation in the Lao PDR increased by 7% in 2008 to 1,600 ha. Overall, the level of opium poppy cultivation in the country remains extremely low and is restricted to isolated plots in remote areas.

According to Government reports, eradication took place on 575 ha (during or after the helicopter survey). In the majority of cases, eradication took place when opium harvesting was already underway. The largest area eradicated was in Phongsaly where 310 ha or 54% of the total eradication was undertaken, followed by Huaphanh (53 ha) and Oudomxay (47 ha).

Lao PDR, opium poppy cultivation* and eradication (ha), 2003-2008



* after eradication

1 The information in this section comes from the report on Opium Poppy Cultivation in South East Asia (UNODC/Governments of Lao PDR, Myanmar and Thailand, December 2008), and can also be found on the Internet (http://www.unodc.org/unodc/en/crop-monitoring/index.html).

2 Source of cultivation, yield and production estimates: National monitoring systems supported by UNODC. The figures in brackets represent the lower and upper limits of the 90% confidence interval.

3 In the absence of a yield survey in 2008, the yield per hectare for 2007 was used.

4 Source: Lao PDR National Commission on Drug Control and Supervision (LCDC), Provincial authorities survey. Due to the limited market for opium, a clear distinction between farm-gate, wholesale and retail prices could not be established.

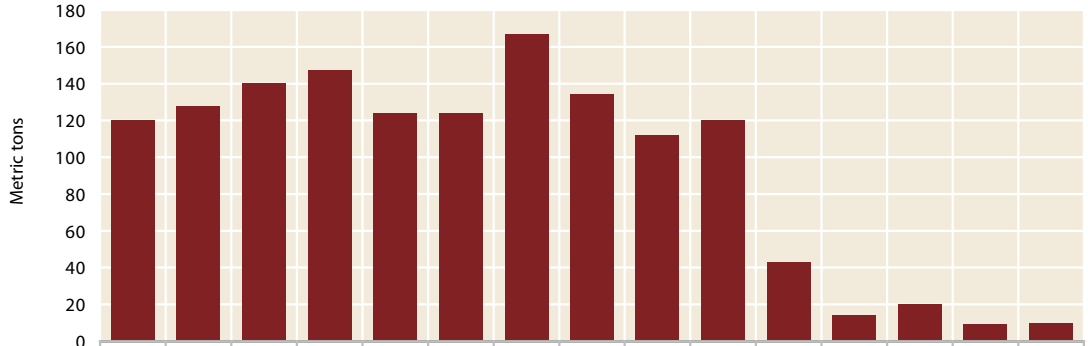
5 Source: LCDC. The 2006 and 2007 eradication campaigns were conducted before and after the survey. In 2008, eradication was mainly conducted during and after the survey.

6 The number does not take into account the possible relapse of recently treated addicts. There were 7,774 addicts, who had been treated since 2003, who relapsed. The total number (cumulative – since 2003) of current addicts in 2008 is 12,680. The relapse rate is 34%.

Production

The potential production of opium in the year 2008 was estimated at 9.6 mt, representing a 7% increase in production over 2007 based on the estimated area under cultivation. Bad weather conditions in northern Lao PDR did not permit the survey team to undertake a yield survey in 2008. Observations made from the helicopter indicated that the crop health was similar to that of 2007, that is, characterised by poor fields and low plant vigour. At the harvest stage, the capsules observed were small and capable of producing only a limited amount of opium gum. Therefore, the 2007 yield estimate of 6 kg/ha was also used to estimate production in 2008.

Lao PDR, potential opium production (mt), 1994-2008

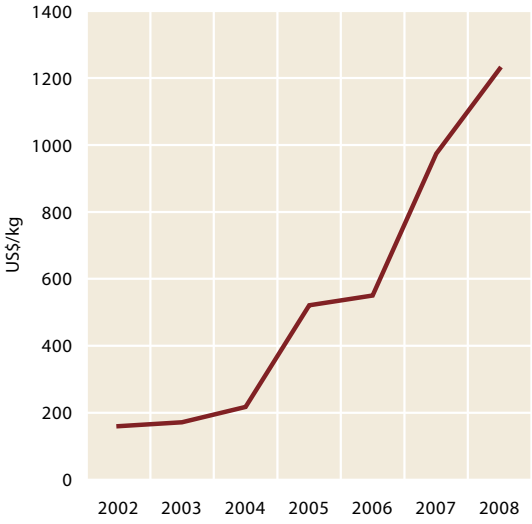


	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Production	120	128	140	147	124	124	167	134	112	120	43	14	20	9.0	9.6

Prices

Opium prices were collected at the provincial level by local authorities during or soon after the 2008 opium harvest.[7] The average opium price increased to US$ 1,227/kg in 2008, a 26% increase over the same period in 2007. Strong regional disparities in price indicated that there were significant local variations in supply and market access. Opium prices ranged between US$ 556/kg and US$ 744/kg in Phongsaly and Huaphanh provinces, where opium poppy production still exits, and reached record levels of US$ 2,209/kg and 2,124/kg in Vientiane, the capital city, and Luang Prabang province where opium poppy cultivation has been completely eliminated, or is very scarce, and while demand is high.

Lao PDR, annual opium prices (US$/kg), 2002-2008



Addiction

In line with a decrease in opium cultivation, the Government reports a decline in the prevalence rate of opium use the northern provinces from 0.6% in 2006 to 0.3% in 2007 and 0.2% in 2008 (expressed as a percentage of the population aged 15 and above). Relapse, however, continues to be a problem. In 2008, 4,906 opium addicts were identified as having relapsed. The total number of addicts amounted to 12,680 persons.

7 Since 2006, no clear distinction can be made between retail, wholesale and farm-gate prices. Only limited amounts of opium are thought to be sold in or to markets outside the province of origin.

3.1.5 Myanmar

Fact Sheet - Myanmar Opium Survey 2008 [1]

	Year 2007	Change on 2007	Year 2008
Opium poppy cultivation in Myanmar[2]	27,700 ha (22,500-32,600 ha)	+3%	28,500 ha (17,900-37,000 ha)
Opium poppy cultivation in Shan State	25,300 ha	0%	25,300 ha
Average opium yield (weighted by area)	16.6 kg/ha	-13%	14.4 kg/ha
Potential production of dry opium in Myanmar (including the Shan State)	460 mt	-11%	410 mt
Opium poppy eradication in Myanmar[3]	3,598 ha	+34%	4,820 ha
Average farm-gate price of opium[4]	US$ 261/kg	+15%	US$ 301/kg
Total potential value of opium production	US$ 120 million	+2%	US$ 123 million
Estimated number of households involved in opium poppy cultivation in Myanmar	163,000	+3%	168,000
Number of persons involved in opium poppy cultivation in Myanmar	815,000	+3%	840,000
Estimated number of households involved in opium poppy cultivation in the Shan State	148,900	0%	148,900
Average yearly household income in opium producing households (Shan State) of which from opium sales Per capita income in opium producing households (Shan State)	US$ 501 US$ 227 US$ 100	+37% +11% +37%	US$ 687 US$ 253 US$ 137
Household average yearly income in non-opium poppy producing households (Shan State) Per capita income in non-opium producing households (Shan State)	US$ 455 US$ 91	+58% +58%	US$ 721 US$ 144
Addiction prevalence rate in Shan State and Kachin (population aged 15 and above)	0.75 %	+47%	1.1 %

1 The information in this section comes from the report on Opium Poppy Cultivation in South-East Asia (UNODC/Governments of Lao PDR, Myanmar and Thailand, December 2008), and can also be found on the Internet (http://www.unodc.org/unodc/en/crop-monitoring/index.html). Source unless otherwise indicated: National monitoring system supported by UNODC.

2 The figures in brackets represent the lower and upper limits of the 90% confidence interval.

3 Source: Central Committee for Drug Abuse Control, Myanmar (CCDAC).

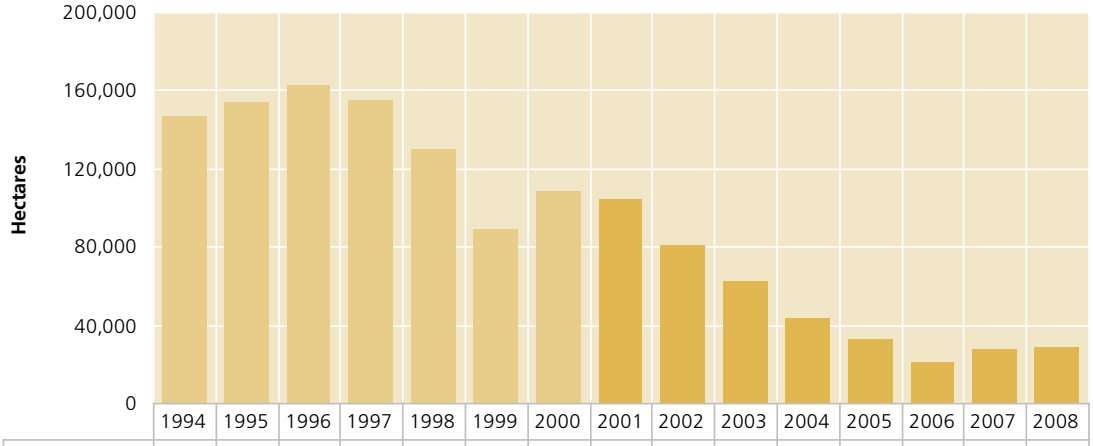
4 For 2007: yearly average price. For 2008: price at harvest time.

Cultivation and eradication

In 2008, the total area under opium poppy cultivation in Myanmar was estimated at 28,500 ha. Despite the small increases observed in the past two years, opium poppy cultivation in Myanmar remains far below the levels reached in the 1990s. The vast majority of the opium poppy cultivation in Myanmar continued to take place in South Shan (53%) and East Shan State (33%). In 2008, the most important increase in opium poppy cultivation was observed in East Shan State, with 36% more opium poppy under cultivation as compared to 2007, whereas in South Shan State cultivation decreased by 17%.

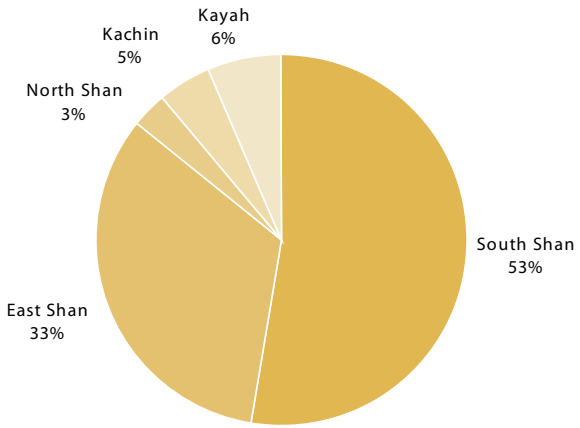
According to official reports from the Government of Myanmar, a total of 4,820 ha were eradicated in 2007-2008, which is an increase of 34% compared to the eradication in 2006-2007 when 3,598 hectares were eradicated. Eradication in Kachin State was four times higher than a year earlier but still below the level reported in 2005. Eradication in East Shan State increased by 13% and in South Shan State by 33%. In Chin State, eradication teams eradicated all the opium poppy found in the region, which was mainly concentrated in the border areas.

Myanmar, opium poppy cultivation (ha), 1994-2008



	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
UNODC								105,0	81,40	62,20	44,20	32,80	21,50	27,70	28,50
US Dept of State	146,6	154,0	163,0	155,1	130,3	89,50	108,7								

Myanmar, distribution of opium poppy cultivation by region, 2008



Opium poppy eradication as reported by the Government, 2002-2008

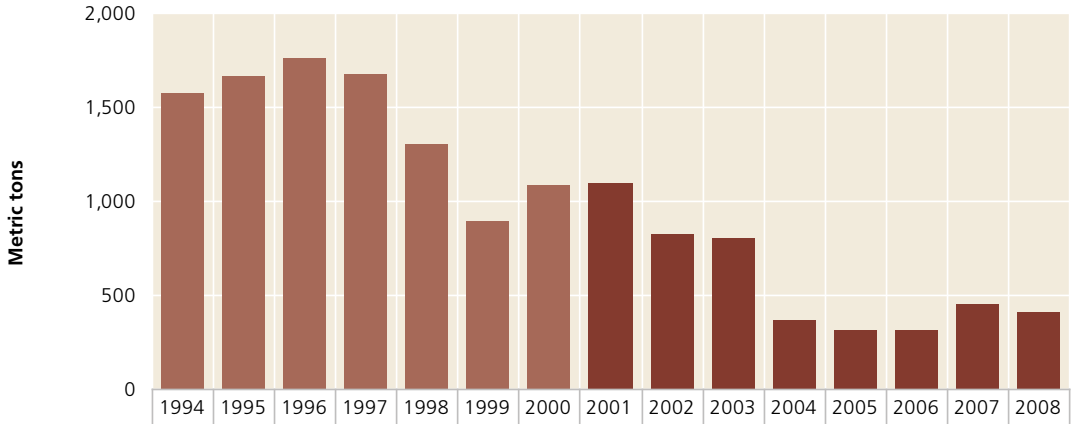
Administrative Unit	2002	2003	2004	2005	2006	2007	2008
North Shan State	6,223	235	172	1,211	76	916	932
South Shan State	511	182	2,170	1,203	3,175	1,316	1,748
East Shan State	14	91	195	124	32	1101	1,249
Special Region 2 (Wa)	94	55	0	0	0	0	0
Shan State	6,842	563	2,537	2,538	3,283	3,333	3,929
Kachin State	97	56	126	1,341	678	189	790
Kayah State	527	9	83	8	0	12	12
Other States	3	8	74	20	9	64	89
Total	7,469	638	2,820	3,907	3,970	3,598	4,820

Production

Based on a total of 312 fields measured in the survey, the weighted national average opium yield for 2008 is estimated at 14.4 kg/ha, leading to an estimated potential opium production of 410 mt. In 2007, the estimated yield was 16.6 kg/ha and the estimated potential opium production was 460 mt.

Due to the lower yield, opium production in 2008 was lower than in 2007 although the area under opium poppy cultivation was roughly the same. Most opium was produced in the Shan State (88%), particularly in South Shan (56%) and East Shan (30%).

Myanmar, potential opium production (mt), 1994-2008

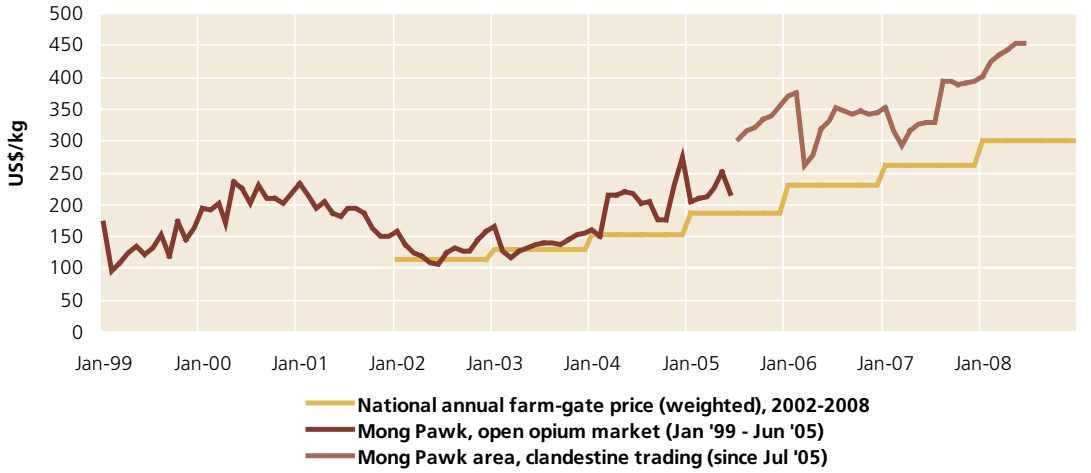


	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
UNODC								1,097	828	810	370	312	315	460	410
US Dept of State	1,583	1,664	1,760	1,676	1,303	895	1,087								

Prices

In 2008, the average farm-gate price of opium at harvest time was estimated at US$ 301/kg. This represents an increase of 15% compared to the average price reported in 2007 (US$ 261/kg). A similar price increase was observed between 2006 and 2007. In 2008, prices continued to differ strongly across states, with Kachin State reporting the highest price (US$ 518/kg) and South Shan State reporting the lowest (US$ 265/kg). The largest increase in price compared to last year was observed in Kachin and North Shan States; both states where little opium poppy cultivation took place. Whereas in South Shan and East Shan States, which together produced 88% of the opium, the price increase was less pronounced.

Myanmar, prices for dry opium (US$/kg), 1999-2008



The wholesale opium prices collected in the Mong Pawk area, which is located in Special Region 2 (Wa region), Shan State, by and large reflect the increase in farm-gate prices. The monthly opium wholesale prices, which were close to the average farm-gate price before the opium ban in the Wa region, seemed to have increased more rapidly than the farm-gate prices. This could be due to the higher risk premium, which traders have to consider in a region where opium poppy is banned. However, it has to be noted that wholesale prices were collected on the open opium market in Mong Pawk town until an opium ban was introduced by the authorities in mid-2005, but had to be collected from a wider range of places and under more difficult conditions after the ban. This limits comparability.

Household income and strategies

In 2008, the average annual cash income of an opium poppy growing household was estimated at US$ 687, while that of a non-opium poppy cultivating household was slightly higher, at US$ 721. As in past years, in most states, the average household cash income in villages that never grew opium poppy was higher than the average household income in villages in the same region that were still growing poppy in 2008 or had grown in the past. Villages reporting opium poppy cultivation were also characterised by lower food security compared to opium poppy-free villages. The survey findings suggest that non-poppy growing villages could achieve a higher level of food security through cultivation of rice. The importance of rice cultivation for food security and poppy cultivation is emphasized by the fact that villages with access to paddy land (irrigated rice fields) were less likely to grow opium poppy. The situation was different in South Shan State, where the average income in poppy growing villages was higher than non-poppy growing villages and over half of the average household cash income in poppy growing villages was reported to stem from opium. This may be due to the relatively large scale of poppy cultivation and higher than average opium yields in this region.

In 2008, the survey findings also indicated that households in former poppy growing villages could not find adequate means of substituting their lost cash income from opium. Villages growing opium poppy showed a significantly higher intensity of shifting cultivation, both in terms of acreage of forest cleared and duration of fallow periods, compared to non-growing villages. The most common coping strategy for the farmers who had stopped opium poppy cultivation was to grow more rice and maize and to sell livestock. There is also some evidence of migration occurring in the Wa region where opium poppy cultivation was abandoned in 2005.

Addiction

Within the surveyed area in 2008, the average level of addiction was higher in villages with opium poppy cultivation compared to non-growing villages. As in previous years, opium addiction continues to be a predominantly male phenomenon. The level of amphetamine-type stimulant (ATS) and heroin addiction was low compared to opium abuse in both growing and non-growing villages. The survey did not cover urban areas where these types of addiction are thought to be higher.

3.1.6 Peru

Fact sheet – Peru Coca Survey 2008[1]				
		2007	Change on 2007	2008
Coca cultivation		53,700 ha	+4%	56,100 ha
Of which in	*Alto Huallaga*	*17,200 ha*	*+3%*	*17,800 ha*
	Apurímac-Ene	*16,000 ha*	*+4%*	*16,700 ha*
	La Convención-Lares	*12,900 ha*	*+2%*	*13,100 ha*
	Elsewhere	*7,600 ha*	*+12%*	*8,500 ha*
Weighted average sun-dried coca leaf yield		2,200 kg/ha		2,200 kg/ha
Potential production of sun-dried coca leaf[2]		116,800 mt	+5%	122,300 mt
Potential production of sun-dried coca leaf available for cocaine production		107,800 mt	+5%	113,300 mt
Potential production of cocaine HCl		290 mt	+4%	302 mt
Average farm-gate price of sun-dried coca leaf		US$ 2.5/kg	+36%	US$ 3.4/kg
Average farm-gate price of sun-dried coca leaf (weighted)[3]		US$ 2.5/kg	+24%	US$ 3.1/kg
Average farm-gate price of coca paste		US$ 600/kg	+21%	US$ 723/kg
Average price of cocaine HCl*		US$ 851/kg	+10%	US$ 940/kg
Potential farm-gate value of sun-dried coca leaf		US$ 292 million		US$ 379 million
Reported eradication of coca cultivation*		12,072 ha	-16%	10,143 ha
Reported seizure of sun-dried coca leaves*		1,858 mt		n.a.
Reported seizure of coca paste*		6,260 kg	+82%	11,375 kg
Reported seizure of cocaine HCl*		8,119 kg	+107%	16,836 kg
Reported destruction of coca laboratories[4]*		665	+84%	1,224
Of which cocaine HCl processing laboratories		16	+19%	19
Reported seizure of opium latex*		126 kg		n.a.

* As reported by the Government of Peru.

1 The information in this section comes from the report on Coca Cultivation in Peru (UNODC/Government of Peru, June 2009), and can also be found on the Internet (http://www.unodc.org/unodc/en/crop-monitoring/index.html). Source unless otherwise indicated: National monitoring system supported by UNODC.

2 Includes all coca leaf potentially produced. For the calculation of coca leaf available for cocaine production, 9,000 mt of sun-dried coca leaf were deducted from this figure, which, according to Government sources, is the amount used for traditional purposes.

3 The weighted average price takes into account that different amounts of coca leaf are sold in different coca cultivation regions at different price levels. The exact volume of coca leaf traded and the prices of the transaction are not known. As an approximation, the annual average prices of the main coca cultivation regions were multiplied with the potential annual coca leaf production in these regions to calculate the weights. These regions represent 82% of estimated amount of coca leaf available for cocaine production.

4 Excluding coca leaf macerations pits.

Cultivation and eradication

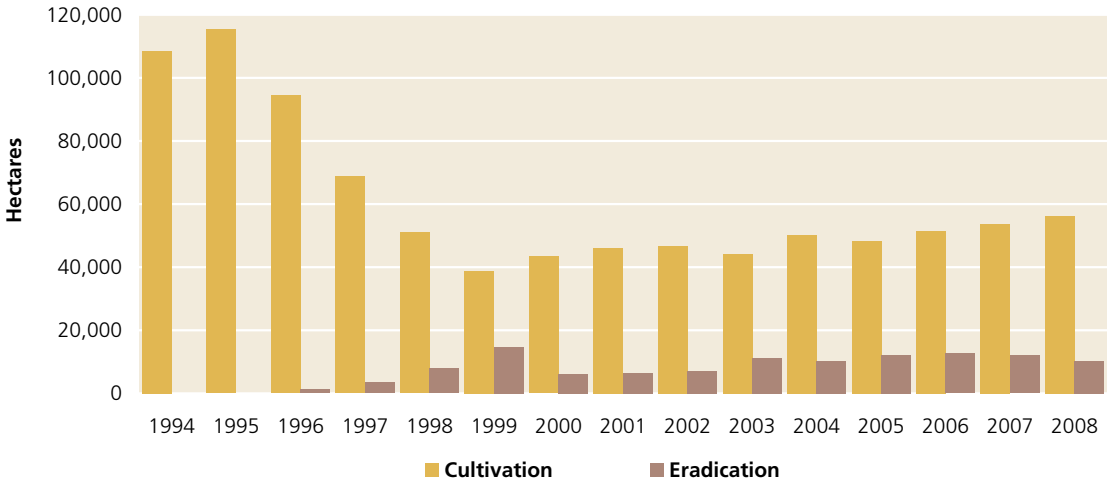
In 2008, the area under coca cultivation in Peru increased by 4% or 2,400 ha to 56,100 ha, which is the third, albeit relatively small, consecutive increase in three years. Peru remains the world's second largest cultivator of coca bush after Colombia. Peru's three largest cultivation region, Alto Huallaga, Apurímac-Ene and La Convención-Lares, represented 85% of the area under coca cultivation in 2008. The rate of expansion was average or below average in these regions, which nonetheless contributed most to the increase in absolute terms, and even more in most of the smaller production areas.

The area under coca cultivation eradicated, 10,430 ha in 2008, decreased by 16% compared to 2007 and was lower than in any year since 2003.

Government reports on eradication indicate that opium poppy cultivation continues to exist in Peru. However, the area currently cultivated with opium poppy is not known.

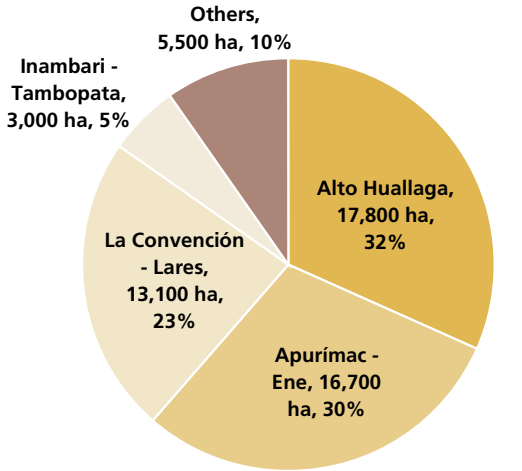
Peru, coca cultivation and eradication (ha), 1994 to 2008

Sources: Cultivation: 1994-1999, US Department of State. Since 2000, National monitoring system supported by UNODC.
Eradication: CORAH (Coca Eradication in the Upper Huallaga Valley), DEVIDA (Peru National Comission for a Drug-Free Life).



Peru, coca cultivation by region, 2008

Source: National monitoring system supported by UNODC

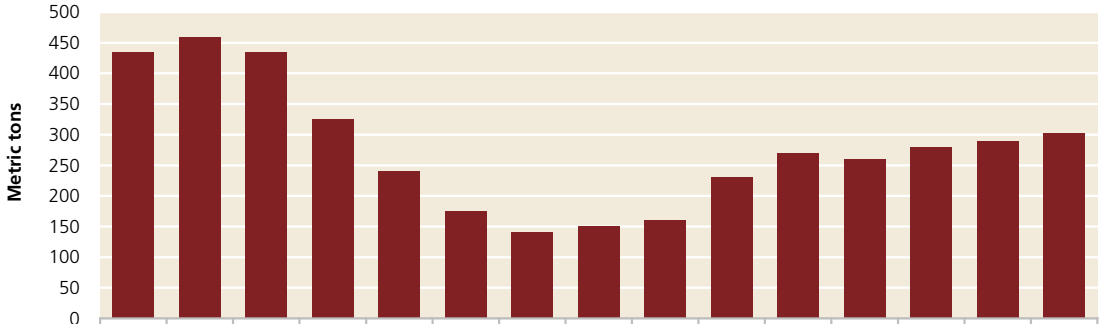


Production

In 2008, total production of sun-dried coca leaf was estimated at 122,300 mt. After a deduction of 9,000 mt, which, according to Government reports, is the amount used for traditional purposes, 113,300 mt would be available for cocaine production. Based on a conversion rate of 375 kg of sun-dried coca leaf for one kilogram of pure cocaine, this corresponds to a potential cocaine production of 302 mt.

Peru, potential cocaine production (mt), 1994 to 2008

Sources: US Dept. of State (1994-1999), National monitoring system supported by UNODC (since 2000) based on conversion rates for coca leaf to cocaine from US Dept. of State.



	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Production	435	460	435	325	240	175	141	150	160	230	270	260	280	290	302

Note: Production estimates from 2003 to 2005 were revised in 2007 based on updated information available on the amount of coca leaf necessary to produce 1 kg of cocaine.

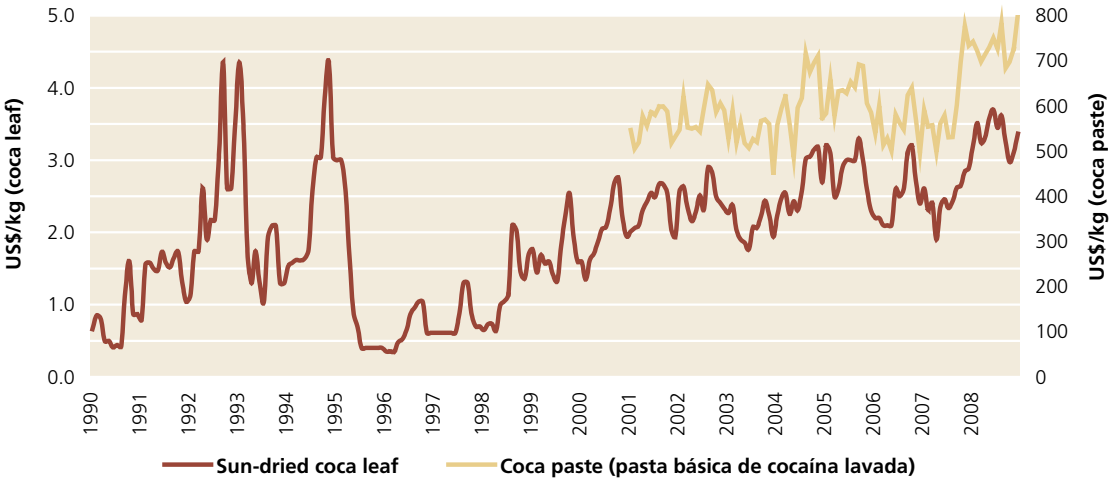
Prices

In 2008, prices for coca leaf - which in Peru is traded as sun-dried leaf - coca paste and cocaine all increased compared to 2007, despite increases in coca leaf production.

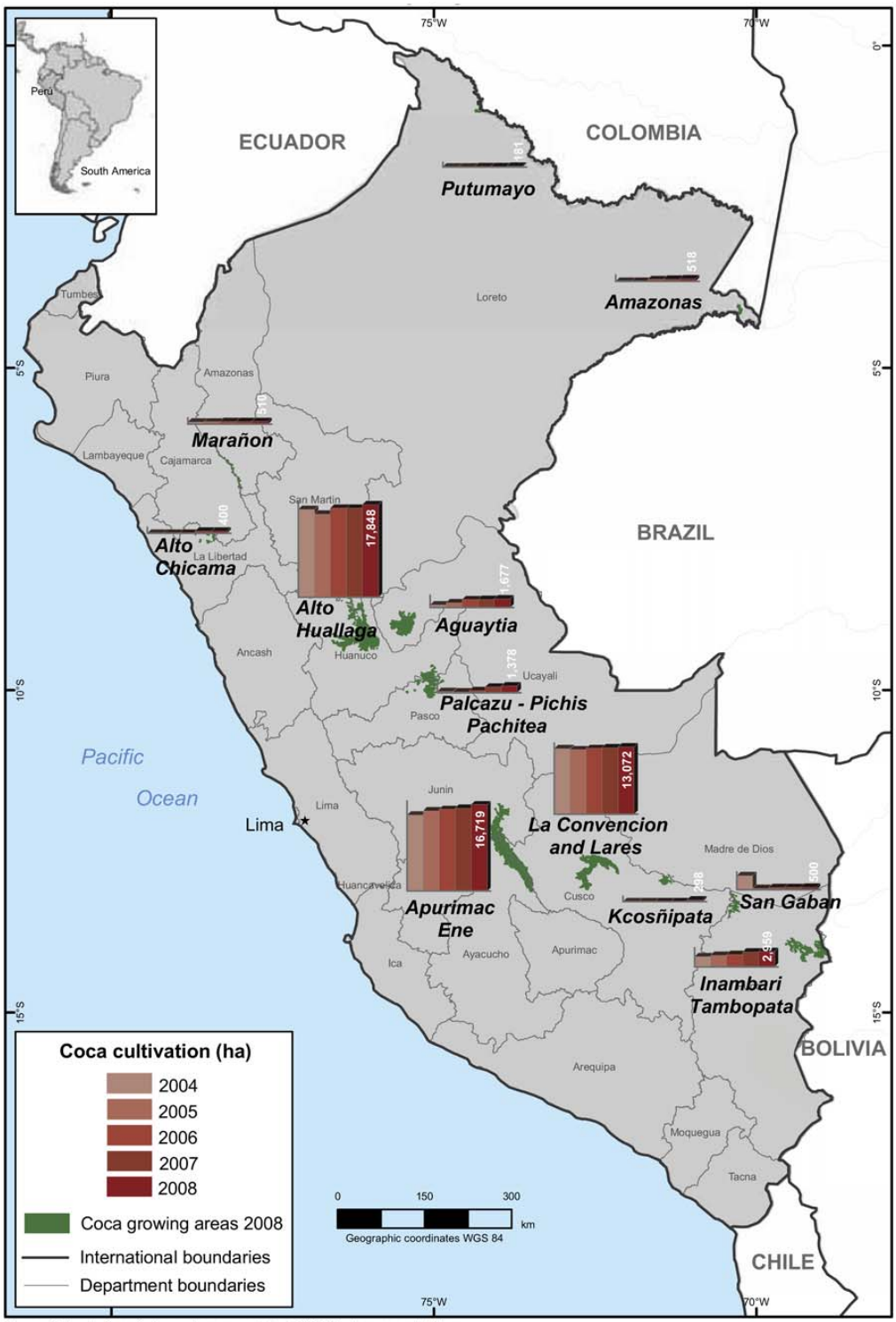
The simple average farm-gate price of sun-dried coca leaf traded outside the Government-controlled market was US$ 3.4/kg, over one third more than in 2007, compared to just US$ 1.7/kg for coca leaf traded under Government control. Wage labour costs for coca harvesting increased noticeably in the main coca cultivation regions, for example in Monzón in Alto Huallaga from under 14 Peruvian soles per day in 2007 to more than 23 soles in 2008. Costs of other agricultural inputs such as fertilizer (urea) also went up, which may explain at least partly the price increase in coca leaf.

Some farmers produce coca paste, called locally pasta básica de cocaína lavada. Farm-gate prices of coca paste increased by 21% in 2008 and reached US$ 723/kg. Higher prices for precursor chemicals were observed in coca cultivating regions, which may have contributed to the increase. Production costs and price mechanisms for illicit trading and trafficking of coca derivatives are not well understood and are thought to be influenced by the presence of armed groups in coca cultivating regions. However, the proportional price increase in 2008 was smaller the more refined the product, that is largest at the level of the coca leaf (36%) and smallest at the level of cocaine HCl (10%), which may indicate that local factors played a more important role than external ones.

Peru, monthly farm-gate prices of sun-dried coca leaf and coca paste (US$/kg)



Peru, coca cultivation by region, 2004-2008



Source: National of monitoring system supported by UNODC - Government of Peru
The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations

3.2 Seizures

A complete set of seizures tables can be found on the UNODC website at:
www.unodc.org

3.3 Seizures of illicit laboratories

A complete set of seizures tables can be found on the UNODC website at: www.unodc.org

3.4 Prices

3.4.1 Opiates: Wholesale, street prices and purity levels

Retail prices (street price), US$/gram

EUROPE	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Austria	270	*250*	203	132	138	103	87	70	94	57	75	44	92	68	75	74	69	99
Belgium	*90*	105	105	77	75	75	56	37	41	41	37	27	29	31	32	*31*	32	33
Denmark	*287*	265	151	139	228	191	157	188	147	175	116	111	126	122	94	123	100	92
Finland	*800*	696	770	724	606	455	414	257	254	250	207	121	188	*195*	*195*	182	125	151
France	*145*	153	150	135	144	170	156	113	119	111	*32*	34	47	57	68	69	67	55
Germany	105	75	96	*74*	91	90	*74*	51	43	45	39	38	38	46	49	48	46	48
Greece	120	175	63	44	105	88	77	80	55	55	55	53	45	65	51	31	75	75
Italy	167	148	140	29	55	41	115	98	120	95	71	68	59	63	69	68	66	66
Luxembourg	*172*	*150*	*150*	*150*	172	202	138	141	133	126	69	67	*67*	45	101	102	*102*	96
Netherlands	49	*50*	55	49	*55*	61	48	55	34	30	25	43	35	40	57	38	38	33
Norway	1,680	525	510	275	349	300	282	198	186	166	128	157	165	198	148	220	*220*	240
Iceland	*184*	*376*	*374*	*407*	380	410	377	372	*372*	*372*	*372*	*372*	*372*	*372*	*372*	*372*	*372*	*102*
Portugal	83	82	72	63	65	79	68	55	74	37	45	45	41	54	52	52	*52*	52
Spain	*175*	*185*	*180*	*126*	132	120	112	88	82	75	59	57	61	75	81	80	78	86
Sweden	*225*	*210*	*195*	*180*	*165*	337	346	135	130	126	113	129	133	128	119	92	*92*	92
Switzerland	312	221	248	126	164	190	116	81	96	167	53	45	39	*48*	*48*	*48*	39	42
United Kingdom	157	144	*144*	134	129	125	108	118	120	108	107	86	91	100	110	93	71	101
Ireland	*196*	*180*	*180*	*168*	*161*	179	275	228	213	204	176	170	179	179	248	252	251	274
Average unweighted in US$	290	222	210	168	179	179	167	131	128	124	99	93	100	105	109	110	105	96
Inflation adjusted 2007 US$	**460**	**337**	**311**	**242**	**250**	**243**	**221**	**170**	**163**	**155**	**119**	**108**	**116**	**118**	**120**	**116**	**108**	**96**
Weighted average in US$	173	149	147	107	118	119	118	93	94	87	64	59	62	70	75	72	67	72
Inflation adjusted in 2007 US$	**275**	**227**	**217**	**153**	**166**	**162**	**155**	**121**	**120**	**108**	**77**	**69**	**72**	**79**	**83**	**76**	**69**	**72**
Weighted average in Euro	**136**	**120**	**113**	**91**	**100**	**91**	**93**	**82**	**84**	**81**	**69**	**66**	**66**	**62**	**61**	**57**	**53**	**52**
Adjusted for inflation in 2007 Euro	**205**	**172**	**156**	**121**	**129**	**115**	**114**	**99**	**101**	**96**	**80**	**75**	**74**	**68**	**65**	**61**	**56**	**54**

Sources: UNODC ARQ data, EUROPOL and UNODC estimates (in italics)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
USA - street price	224	261	296	275	274	255	212	233	206	196	192	164	158	150	142	138	132	131
Inflation adjusted in 2007 US$	**355**	**397**	**438**	**395**	**383**	**347**	**280**	**301**	**263**	**244**	**232**	**192**	**182**	**169**	**156**	**147**	**136**	**131**
Purity adjusted	1,016	932	801	672	668	593	558	529	469	468	458	432	405	406	418	384	388	364
Purity & inflation adjusted	**1,612**	**1,419**	**1,184**	**964**	**934**	**807**	**737**	**683**	**597**	**582**	**552**	**505**	**467**	**458**	**459**	**408**	**399**	**364**

Source: ONDCP, The Price and Purity of Illicit Drugs: 1981-2007 (Reports prepared by the Institute for Defense Analysis for ONDCP. 1990-2000 (prices for 1 gram or less, at street purity), ONDCP, ONDCP, The Price & Purity of Illicit Drugs 1981-2003 (prices for < 2 grams) for 2001-03, Community Epidemiology Network - June 2005 (for 2004) and ONDCP (based on STRIDE) for 2005 to 2007.

Wholesale, US$/kg

EUROPE	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Austria	*55,244*	*46,145*	63,000	36,000	37,752	30,491	30,222	28,831	34,565	31,087	25,026	19,553	23,547	33,900	37,260	36,168	37,640	54,810
Belgium	*30,000*	30,000	28,500	26,600	29,586	32,580	24,307	21,761	20,847	18,557	18,360	20,292	22,229	20,960	23,040	23,336	18,820	20,554
Denmark	*110,000*	*100,000*	85,000	95,000	117,625	106,805	86,806	100,465	65,693	61,507	23,585	32,889	20,803	41,770	32,820	37,741	35,967	33,091
Finland	*353,774*	*353,774*	*353,774*	*353,774*	*353,774*	353,774	*321,586*	*199,442*	*197,856*	*194,357*	*161,034*	*44,840*	51,804	*51,800*	68,314	69,192	*69,192*	54,810
France	180,000	72,250	80,000	63,750	*75,000*	66,035	46,603	32,230	25,885	25,596	22,158	26,906	23,547	28,250	31,050	31,450	35,550	27,405
Germany	45,244	36,145	41,667	35,206	36,448	35,256	27,890	25,686	25,608	24,770	20,263	17,816	20,325	21,510	25,723	25,765	22,510	25,810
Greece	90,000	70,000	35,000	28,000	29,536	34,362	39,090	28,775	21,020	20,714	17,320	16,592	17,425	18,650	17,540	14,782	19,450	19,450
Italy	67,500	60,000	108,000	42,581	47,690	35,786	48,152	37,795	36,459	36,894	31,163	32,979	33,669	29,830	30,109	30,496	28,830	31,676
Luxembourg	*86,000*	*75,000*	*75,000*	49,500	*86,000*	57,079	59,852	54,786	52,630	50,368	*48,000*	50,369	*50,369*	*24,700*	43,473	44,030	*44,030*	31,451
Netherlands	23,850	*25,000*	26,550	23,850	*23,850*	24,384	20,572	13,810	14,056	16,985	14,703	15,757	29,199	17,730	*17,730*	18,240	16,625	16,957
Norway	*220,000*	*200,000*	212,500	151,099	101,744	*85,000*	72,520	62,209	64,918	49,872	44,561	35,874	37,676	48,234	52,790	53,490	53,325	58,235
Portugal	50,000	55,000	46,667	31,500	32,428	43,171	45,902	38,841	30,483	29,339	25,398	31,310	25,839	31,000	34,075	34,512	34,512	20,554
Spain	160,000	*125,000*	*122,500*	*91,000*	74,418	79,880	84,395	63,880	52,755	53,820	43,596	32,000	41,202	48,420	46,350	47,055	47,371	47,671
Sweden	*140,000*	*130,000*	*115,000*	*95,000*	*117,625*	62,655	64,829	65,771	63,190	61,022	41,626	33,702	34,738	41,900	31,648	35,970	35,970	37,059
Switzerland	124,000	153,800	228,875	47,460	52,823	54,850	41,665	37,234	34,294	33,422	29,568	16,082	19,149	*22,340*	23,580	25,420	21,470	23,180
United Kingdom	53,940	43,940	*43,500*	43,210	*42,500*	42,004	34,846	39,491	41,667	29,126	26,718	25,926	30,620	34,340	39,041	33,249	28,320	27,163
Ireland	*63,940*	*53,940*	*53,500*	*53,210*	*52,500*	81,479	77,643	36,531	34,396	43,478	37,600	36,441	36,441	*30,510*	*30,510*	33,967	33,967	33,967
Average unweighted in US$	109,029	95,882	101,120	74,514	77,135	72,094	66,287	52,208	48,019	45,936	37,099	28,784	30,505	32,108	34,415	34,992	34,326	33,167
infl.adj. in US$	**172,963**	**145,965**	**149,439**	**106,920**	**107,918**	**98,084**	**87,598**	**67,445**	**61,082**	**57,170**	**44,670**	**33,699**	**35,158**	**36,182**	**37,775**	**37,150**	**35,313**	**33,167**
Weighted average in US$	96,048	69,304	79,023	55,551	56,652	52,828	48,491	39,325	36,587	34,398	28,942	25,998	28,574	30,357	32,470	31,902	30,811	30,050
Inflation adj. (kg) in 2007 US$	**152,370**	**105,504**	**116,785**	**79,710**	**79,260**	**71,874**	**64,081**	**50,801**	**46,540**	**42,810**	**34,848**	**30,438**	**32,933**	**34,209**	**35,640**	**33,869**	**31,696**	**30,050**
Inflation adj. (gram) in 2007 US$	**152**	**106**	**117**	**80**	**79**	**72**	**64**	**51**	**47**	**43**	**35**	**30**	**33**	**34**	**36**	**34**	**32**	**30**
Weighted in Euro (g)	**75**	**56**	**61**	**47**	**48**	**41**	**38**	**35**	**33**	**32**	**31**	**29**	**30**	**27**	**26**	**25**	**25**	**22**
Adjusted for inflation in 2007 Euro (g)	**114**	**80**	**84**	**63**	**62**	**51**	**47**	**42**	**39**	**38**	**36**	**33**	**34**	**29**	**28**	**27**	**26**	**22**

Sources: UNODC ARQ data, EUROPOL and UNODC estimates (in italics)

USA	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Average in US$ in kg	162,500	155,000	150,000	146,000	142,500	146,000	141,875	129,375	125,000	107,000	81,200	59,500	50,750	65,500	68,800	65,000	65,000	71,200
Average in US$ in gram	**163**	**155**	**150**	**146**	**143**	**146**	**142**	**129**	**125**	**107**	**81**	**60**	**51**	**66**	**69**	**65**	**65**	**71**
Inflation adj. (g) in 2007US$	**258**	**236**	**222**	**209**	**199**	**199**	**187**	**167**	**159**	**133**	**98**	**70**	**58**	**74**	**76**	**69**	**67**	**71**

Source: UNODC ARQ

OPIUM

Retail and wholesale prices and purity levels: breakdown by drug, region and country or territory

(prices expressed in US$ or converted equivalent, and purity levels in percentage)

	RETAIL PRICE (per gram)				WHOLESALE PRICE (per kilogram)			
Region / country or territory	Typical	Range	Purity	Year	Typical	Range	Purity	Year
Africa								
North Africa								
Egypt	4.6	4.2 - 5.0		2007	2,732.4	2,588.5 - 2,876.2		2007
Sudan	0.4			2005				
Southern Africa								
Zambia	8.9	8.7 - 8.9		2004				
Americas								
North America								
Canada	63.91	28.2 - 140.98		2007	24906.01	20676.692 - 32894.737		2007
United States	34.0	28.0 - 40.0		2004	31,500.0	28,000.0 - 35,000.0		2005
South America								
Colombia					251.0			2006
Asia								
Central Asia and Transcaucasia								
Armenia	70.0	60.0 - 80.0		2007	25,000.0		69.0 - 80.0	2005
Georgia	25.0	20.0 - 30.0		2007				
Kazakhstan	5.0	2.0 - 7.0		2004	4,455.0	1,500.0 - 12,000.0		2005
Kyrgyzstan	2.0	1.3 - 2.6		2007	1,950.0	1,300.0 - 2,600.0		2007
Tajikistan	4.0	2.0 - 6.0		2007	400.0	200.0 - 600.0		2007
Turkmenistan	4.8	4.0 - 5.6		2007	3,000.0	2,800.0 - 3,200.0		2007
Uzbekistan	6.0	4.0 - 8.0		2007	3,000.0	1,800.0 - 8,000.0		2007
East and South-East Asia								
China	1.8	1.0 - 3.0		2004	21,000.0	6,500.0 - 80,000.0		2005
Indonesia	29.3	26.6 - 31.9		2006				
Japan	27.8			2004				
Laos					974.0			2007
Malaysia					21,204.6	20,684.2 - 21,725.0		2006
Myanmar	1.2	0.4 - 1.2		2007	960.0			2006
Philippines	3.9	3.8 - 4.1		2006	4,337.5			2007
Republic of Korea	40.7	27.2 - 54.3		2007	5,190.3			2004
Thailand	2.1			2006	1,071.0			2007
Vietnam					350.0	320.0 - 380.0		2005
Near and Middle East /South-West Asia								
Afghanistan	0.1			2005	92.0			2007
Iran (Islamic Republic of	3.6			2005	613.7	247.7 - 861.4		2007
Jordan					4,210.0	3,500.0 - 4,910.0		2006
Lebanon					17,000.0	15,000.0 - 30,000.0		2005
Pakistan	0.2	0.3 - 0.2		2007	613.7	247.7 - 861.4		2007
Syrian Arab Republic	4.0	3.0 - 5.0	40.0 - 60.0	2007	3,500.0	2,500.0 - 4,500.0	50.0 - 70.0	2007
United Arab Emirates					3,750.0	3,000.0 - 4,500.0		2006
South Asia								
Bangladesh	2.0	1.5 - 2.5	20.0 - 40.0	2005	1,500.0	1,300.0 - 1,500.0		2006
India					670.0	610.0 - 730.0	3.0 - 6.0	2006
Nepal				2007	453.1	377.6 - 528.6		2007
Sri Lanka	7.3	0.9 - 10.9		2007				
Europe								
East Europe								
Belarus	7.0	2.0 - 5.0		2007	1,000.0	800.0 - 7,000.0		2007
Moldova R.	5.0	3.8 - 6.3		2006				
Russian Federation	26.1	8.3 - 125.0		2007	13,250.0	416.7 - 62,500.0		2007
Ukraine	7.0			2007	800.0	400.0 1,200.0		2007
Southeast Europe								
FYR of Macedonia					691.9	629.0 - 754.8		2005
Romania	22.0	6.3 - 12.6		2005	4,717.6			2005
Turkey					2,397.9	2,055.4 - 2,740.5		2007
West and Central Europe								
Austria	10.3	9.6 - 11.0		2007	3,083.0	2,740.5 - 3,425.6		2007
Cyprus	21.2	19.2 - 23.3		2007				
Czech Rep.	5.5			2007	3,754.5	2,507.5 - 5,001.4		2007
France	18.9			2006				
Latvia *	8.8			2006				
Portugal	51.5			2007				
Norway	41.1			2007	13,702.4	10,961.9 - 16,442.9		2007
Sweden					7,913.7	7,194.2 8,633.1		2006
United Kingdom	20.1	10.1 - 40.2		2007	5,030.2	4,024.1 - 8,048.3		2007

* For 1cm^3 of concentrate of poppy straw

HEROIN

Retail and wholesale prices and purity levels: breakdown by drug, region and country or territory

(prices expressed in US$ or converted equivalent, and purity levels in percentage)

	RETAIL PRICE (per gram)				WHOLESALE PRICE (per kilogram)			
Region / country or territory	Typical		Purity	Year	Typical	Range	Purity	Year
Africa								
East Africa								
Kenya (Heroin No.3)	1.9	1.5 - 2.2		2007	16,145.4	12,916.6 - 19,374.8	40.0 - 70.0	2004
(Heroin No.4)	15.5	15.5 - 23.3		2004	22,604.0	19,374.8 - 25,833.1		2004
Mauritius	323.1			2007				
Uganda (Heroin No.3)	12.5	10.0 - 15.0		2005	30,000.0	25,000.0 - 30,000.0		2005
(Heroin No.4)	17.5	15.0 - 20.0		2005				
North Africa								
Algeria	18.8	17.4 - 20.2	60.0 - 70.0	2007				
Egypt	11.5	5.3 - 17.8		2007	14,212.4	12,435.8 - 15,988.9		2007
Libya					39,370.1	23,622.1 - 55,118.1		2005
Southern Africa								
Namibia (Heroin No.3 & 4.)	67.3	63.8 - 70.8		2007				
South Africa	25.5			2007				
Zambia	34.0			2007	34,012.7	32,753.0 - 35,272.5		2007
Zimbabwe	27.1	18.1 - 29.3		2007				
West and Central Africa								
Burkina Faso	55.3	46.1 - 64.5		2006				
Cameroon	29.9			2005				
Congo	10.0	10.0 - 14.0		2005	9,270.2	9,270.2 - 11,124.3		2004
Gabon	92.2	64.5 - 129.0	2.0 - 5.0	2006	92,170.0			2006
The Gambia (Heroin No.3)					18,789.1	16,701.5 - 20,876.8		2007
Ghana	21.9	20.8 - 22.9		2007	18,214.1	16,652.9 - 19,775.3	75 (60-90)	2007
Guinea	17.5	15.0 - 20.0		2005	17,500.0	15,000.0 - 20,000.0		2005
Nigeria (Heroin No.3)	26.4	20.3 - 32.5		2007	20,780.0	20,390.0 - 21,180.0		2006
(Heroin No.4)					22,586.1			2004
Togo (Heroin No.3)	23.9	22.1 - 27.7	35.0 - 45.0	2006	18,800.2		45.0 - 70.0	2007
Americas								
Caribbean								
Bermuda	175.0			2006				
Dominican R.	22.0			2006	20,000.0			2007
Trinidad Tobago	128.8			2006	12,880.0			2006
Central America								
Costa Rica	77.2		35.0 - 95.0	2006	76,800.0		35.0 - 95.0	2006
El Salvador	69.0	65.0 - 70.0		2006	75,000.0			2006
Guatemala	45.5	26.0 - 52.0	90.0 - 95.0	2007	38,996.5	2,599.8 - 38,996.5	90.0 - 98.0	2007
Honduras	5.3	2.6 - 7.9	63 (50-75)	2004	18,000.0	16,000.0 - 20,000.0	85.0 - 93.0	2005
Panama					10,000.0			2005
North America								
Canada	335.5	169.2 - 1,127.8	50.6 (8 -91)	2007	99,389.1	61,090.2 - 211,466.2	50.6 (8 -91)	2007
Mexico (Heroin No.4)					35,000.0			2007
United States (Heroin No.4)	131.0	55.0 - 150.0	32.0 - 40.0	2007	71,200.0	40,000.0 - 100,000.0	46.0 - 66.0	2007
(Black Tar)	77.0	54.0 - 100.0	5.0 - 53.0	2007	21,000.0	20,000.0 - 22,000.0	30.0 - 40.0	2007
South America								
Argentina					110,000.0	100,000.0 - 120,000.0		2004
Brazil	50.0	30.0 - 70.0		2005	50,000.0			2005
Colombia (Heroin No.4)	20.1			2005	9,992.0			2006
Ecuador					13,500.0	12,000.0 - 15,000.0		2007
Venezuela	11.6	9.3 - 14.0	15.0	2006	9,300.0		90.0	2006
Asia								
Central Asia and Transcaucasia								
Armenia	145.0	130.0 - 160.0	65.0 - 75.0	2007	120,000.0		60.0 - 75.0	2005
Georgia	350.0	300.0 - 400.0		2007				
Kazakhstan	18.5	12.0 - 25.0		2007	15,000.0	12,000.0 - 25,000.0		2007
Kyrgyzstan (Heroin No.4)	2.2	2.0 - 2.3		2007	7,000.0	6,000.0 - 8,000.0		2007
Tajikistan (Heroin No.3)					1,600.0	1,000.0 - 2,200.0		2007
(Heroin No.4)	4.5	3.0 6.0		2007	4,500.0	2,800.0 - 6,000.0	5.0 - 93.0	2007
Uzbekistan	18.0	15.0 - 35.0		2007	16,500.0	8,000.0 - 25,000.0		2007
Turkmenistan	28.0	16.0 - 40.0		2007	23,000.0	14,000.0 - 32,000.0		2007
East and South-East Asia								
Brunei Darussalam	1,330.4			2007				
China	36.2	18.1 - 96.5	20	2004				
Hong Kong SAR, China (No.4)	54.0	44.4 - 64.3	19.0 - 45.0	2007	47,526.4	3,463.8 - 6,042.3	19.0 - 45.0	2007
Indonesia	93.6	77.1 - 110.1		2007	93,560.8	77,050.1 - 110,071.5	40.0 - 70.0	2007
Japan	255.0	212.5 - 339.9		2007	42,000.0	28,000.0 - 56,000.0		2004
Laos					12,000.0	10,000.0 - 14,000.0		2004
Macau SAR, China (Heroin No.3	50.0	37.0 - 62.0		2005				
Malaysia (Heroin No.3)					7,100.0			2006
(Heroin No.4)					14,645.0	6,500.0 - 22,790.0		2006
Myanmar (Heroin No.4)	34.0	5.8 - 62.2		2007				
Philippines	108.8			2005	108,794.2			2005
Singapore (Heroin No.3)	133.0	99.8 - 166.3	5.19	2007	17,737.9		5.19	2007
Thailand	105.0	101.9 - 127.4	78.1 - 85.5	2006	13,029.5	11,581.8 - 14,477.2		2007

HEROIN

Retail and wholesale prices and purity levels: breakdown by drug, region and country or territory

(prices expressed in US$ or converted equivalent, and purity levels in percentage)

	RETAIL PRICE (per gram)			WHOLESALE PRICE (per kilogram)			
Region / country or territory	Typical	Range	Purity	Year	Typical	Range	Purity	Year
Vietnam					16,000.0	14,000.0 - 18,000.0		2005
Near and Middle East/ South- West Asia								
Afghanistan	2.4	2.3 - 2.6		2007	2,405.0	2,256.3 - 2,553.7		2007
Bahrain (Heroin No.3)	265.2	212.2 - 318.2		2005	198,886.2	159,109.0 - 212,145.3		2005
(Heroin No.4)	318.2	265.2 - 397.8		2005	265,181.7	212,145.3 - 318,218.0		2005
Iran (Islamic Republic of)	12.7	5.1 - 20.3		2005	3,337.9	1,615.1 - 4,307.0		2007
Israel	45.0	20.0 - 50.0		2007	25,000.0	20,600.0 - 30,000.0		2007
Jordan	35.0	28.0 - 49.1		2007	19,622.7	18,221.1 - 21,024.3		2007
Lebanon	10.0	5.0 - 15.0	70.0 - 80.0	2007	3,000.0	2,000.0 - 4,000.0	70.0 - 90.0	2007
Oman	51.8	51.8 - 134.1		2007	23,306.4	20,716.8 - 31,075.2		2007
Pakistan (Heroin No.3)	2.7	2.3 - 3.1		2005	2,520.0	2,470.3 - 2,569.8		2007
(Heroin No.4)	4.2	4.6 - 4.2		2005	4,158.8	3,733.5 - 4,584.1		2005
Saudi Arabia	52.2	79.9		2008				
Syrian Arab Republic	16.0	14.0 - 18.0	30.0 - 50.0	2007	15,000.0	13,000.0 - 17,000.0	45.0 - 65.0	2007
United Arab Emirates (No.4)	175.0	170.0 - 180.0		2006	15,000.0	14,000.0 - 16,000.0		2006
South Asia								
Bangladesh (Heroin No.3)			3.0 - 6.0	2006	5,000.0	4,500.0 - 6,000.0		2007
India	10.9			2006	6,100.0	3,658.0 - 9,760.0	15.0 - 20.0	2006
Maldives	77.8			2006	76,930.0			2006
Nepal (Heroin No.3)	15.1	12.1 - 18.1		2007	9,061.4	7,551.2 - 15,102.3		2007
(Heroin No.4)	22.7	15.1 - 27.2		2007	22,653.5	18,122.8 - 27,184.2		2007
Sri Lanka (Heroin No.3)	39.1	32.7 - 45.5		2007				
Europe								
East Europe								
Belarus	40.0	30.0 - 100.0		2007	10,000.0	8,000.0 - 12,000.0		2007
Moldova R.	62.7	37.6 - 87.8		2006	56,460.0	43,910.0 - 75,280.0		2006
Russian Federation (Heroin No.3	40.0			2005	23,721.5			2006
(Heroin No.4)	96.9	33.3 - 520.8		2007	39,458.3	10,416.7 - 109,583.3	50.0 - 90.0	2007
Ukraine (Heroin No.3)	70.0	60.0 - 80.0		2007	15,000.0	10,000.0 20,000.0	20.0 - 40.0	2007
(Heroin No.4)	90.0	80.0 100.0		2007	35,000.0	20,000.0 50,000.0	65.0 - 75.0	2007
Southeast Europe								
Albania (Heroin No.3)	23.0	21.0 - 25.0		2007	12,500	11,000.0 - 14,000.0	2.0 50.0	2007
Bosnia & Herzegovina	48.0	41.1 - 54.8	5.0 - 33.8	2007	15,072.6	13,702.4 - 16,442.9		2007
Bulgaria (Heroin No.3)	31.5	21.0 - 42.0	25 (1 - 67)	2007	31,503.8	14,001.7 - 43,755.2	45 (1 - 65)	2007
Croatia	55.9	46.6 - 74.6	10 (5 - 20)	2007	26,104.8	22,375.5 - 31,698.7	40 (20-50)	2007
FYR of Macedonia	22.0	18.9 - 25.2		2005	13,838.4	12,580.4 - 15,096.4		2005
Romania (Heroin No.3)	50.3	31.5 - 50.3	20.0 - 45.0	2006	20,553.6	16,442.9 - 20,553.6		2007
Serbia	20.6	13.7 - 27.4	50 (40 - 70)	2007	24,664.3	17,813.1 - 34,256.0	60 (40 - 80)	2007
Turkey (Heroin No.3)	19.9	17.8 - 21.9	0.3 82.0	2007	8,564.0	6,851.2 - 10,276.8	56.4 (0.27 - 82)	2007
West and Central Europe								
Andorra	54.8	48.7 - 60.9		2007	54,795.0	48,700.0 60,900.0		2007
Austria (Heroin No.3)	99.3	82.2 - 116.5	4 (0.2-57.3)	2007	54,809.5	41,107.2 - 68,511.9	4.5 (0.2-57)	2007
Belgium (Heroin No.3)	32.9	13.7 - 82.2		2007	20,553.6	16,442.9 - 24,664.3		2007
Cyprus (Heroin No.3)	87.7	82.2 - 93.2		2007	30,435.7			2007
(Heroin No.4)	180.1			2006	31,784.9			2006
Czech Republic (Heroin No.3)	54.8	39.7 - 100.0	5.0 - 56.5	2007	41,449.7	20,019.2 - 75,075.4	16.3 73.9	2007
Denmark (Heroin No.3)	91.9	91.9 - 165.5		2007	33,091.3	25,737.7 - 45,960.1		2007
(Heroin No.4)	165.5	137.9 - 220.6		2007	64,344.2			2007
Estonia	87.6			2007	32,079.9			2006
Finland	150.7	137.0 - 164.4		2007	54,809.5		27 (0.9-68)	2007
France (Heroin No.3)	54.8	41.1 - 75.4	2.0 - 10.0	2007	27,404.8	20,553.6 - 41,107.2	12 (5 - 25)	2007
(Heroin No.4)	68.5	41.1 - 109.6	2.0 - 10.0	2007	41,107.2	27,404.8 - 61,660.7	15 (5 - 25)	2007
Germany (Heroin No.3)	47.7		20.3 (0.03-73.8)	2007	25,809.8		46.5 (2.5 - 68.4)	2007
Greece (Heroin No.3)	75.3	56.5 - 94.1		2006	19,450.0	12,550.0 - 26,350.0	100.0	2006
(Heroin No.4)	78.4	56.5 - 100.4		2006	25,720.0	18,820.0 - 32,620.0		2006
Hungary	68.1	57.4 - 83.2	25 (7 -40)	2007	16,983.5			2006
(Heroin No. 4)					56,839.3			2006
Ireland (Heroin No. 3)	274.0	246.6 - 301.5	40 (32 - 48)	2007	33,967.0		41 (14 - 60)	2006
Italy (Heroin No. 3)	65.5	58.0 - 73.0	6.0 49.0	2007	31,676.1	27,777.7 - 35,026.3		2007
(Heroin No. 4)	89.2	80.6 - 97.7		2007	52,069.1	45,766.0 - 58,372.2		2007
Latvia	171.1	88.0 - 254.3	5.0 - 76.0	2007	83,123.1	68,454.3 - 97,791.9		2007
Liechtenstein	33.5	29.7 - 42.4		2007				
Lithuania	63.5	47.7 - 79.4	35 (0.1 - 72)	2007	34,950.7	27,404.8 47,659.6	35 (0.1 - 72)	2007
Luxembourg (Heroin No.3)	95.9	68.5 123.3	14.95 (3.9 - 22.8)	2007	31,450.9			2005
Malta (Heroin No.3)	111.7	71.8 - 195.5	37.4 (13.6-45.3)	2007	54,275.1		37.4 (13.6-45.3)	2007
Netherlands	32.9	21.5 - 43.9	0.1 - 65.0	2007	16,956.7	7,738.0 - 23,938.1		2007
Norway	239.8	137.0 - 342.6	35 (10 - 50)	2007	58,235.1	34,256.0 - 82,214.3	20.0 - 50.0	2007
Poland (Heroin No.3)	77.4	34.3 - 120.6	0.2 - 33.9	2007	20,553.6	13,702.4 - 32,543.2		2007
Portugal (Heroin No.3)	51.5		25.1 (7 -57.5)	2007	30,830.4	27,404.8 - 34,256.0	34 (18.3 -55.1)	2007
Slovakia	12.3	11.0 - 13.7	9.0 - 13.0	2007	34,256.0	30,830.4 - 41,107.2	13.0 - 20.0	2007
Slovenia (Heroin No.3)	54.8			2007	21,923.8			2007
Spain (Heroin No.3)	85.9		32.5	2007	47,670.6		47.5	2007

HEROIN

Retail and wholesale prices and purity levels:
breakdown by drug, region and country or territory

(prices expressed in US$ or converted equivalent, and purity levels in percentage)

	RETAIL PRICE (per gram)				WHOLESALE PRICE (per kilogram)			
Region / country or territory	Typical	Range	Purity	Year	Typical	Range	Purity	Year
Sweden (Heroin No.3)	91.6	65.5 - 130.9	5.0 - 40.0	2006	37,059.0	29,647.2 - 44,470.8	5.0 - 40.0	2007
(Heroin No.4)	130.9		15.0 - 90.0	2006	45,792.5			2006
Switzerland	41.8	16.7 - 100.4	20	2007	23,179.9	16,736.4 - 29,288.7	10.0 - 55.0	2006
United Kingdom	100.6	60.4 - 201.2	49.8 (1- 87)	2007	27,163.0	22,132.8 - 36,217.3	57.4 (21- 81)	2007
Oceania								
Australia	376.8	209.3 - 502.4	3.0 - 56.0	2007	221,303.6	191,397.7 - 251,209.5	25.0 74.0	2007
New Zealand (no.4 - Imported)	1,283.6	733.5 - 1,833.7		2007				
('homebake')	114.4	65.4 - 163.4		2004				

3.4.2 Cocaine: Wholesale, street prices and purity levels

Retail price (street price), US$/gram

EUROPE	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Austria	198	*180*	167	120	126	156	138	118	113	93	94	78	71	90	103	101	78	99
Belgium	*80*	90	68	95	*82*	93	90	57	55	60	55	51	50	51	*51*	*51*	60	67
Denmark	144	135	111	90	*150*	176	169	108	119	165	106	120	91	122	82	82	81	74
Finland	*159*	*150*	*126*	*105*	*165*	*191*	*184*	*123*	179	*157*	*138*	121	111	151	146	125	100	110
France	99	119	140	153	151	174	125	87	84	82	50	87	75	90	99	94	74	96
Germany	120	103	111	95	109	103	90	77	72	68	57	58	57	68	73	79	74	86
Greece	*150*	*120*	105	54	116	111	144	91	54	82	69	72	75	96	93	79	110	110
Iceland	167	203	207	200	211	228	226	238	149	*134*	*121*	109	150	207	156	*156*	*164*	164
Italy	108	120	164	90	104	113	129	109	129	*135*	*100*	89	90	101	113	114	104	112
Luxembourg	*150*	*150*	*150*	*150*	172	194	127	115	110	119	*119*	119	*107*	96	114	105	106	89
Netherlands	66	*70*	74	66	*60*	79	52	64	38	33	*33*	*33*	*33*	50	*59*	*59*	*60*	59
Norway	176	170	255	156	145	*150*	153	177	133	128	114	157	165	170	155	*155*	*151*	164
Portugal	63	57	60	57	59	66	64	57	51	43	56	48	36	47	49	55	56	55
Spain	110	100	100	63	78	91	72	68	68	63	52	52	56	70	76	76	76	83
Sweden	*160*	*152*	*183*	*123*	*148*	118	118	98	88	97	77	79	87	99	93	92	*101*	96
Switzerland	178	144	188	136	146	148	127	117	110	*109*	77	69	74	89	*86*	*86*	*74*	75
United Kingdom	131	127	69	123	113	111	102	124	128	104	94	94	84	90	91	79	*87*	91
Ireland	*141*	*137*	*120*	*110*	*100*	119	32	34	32	30	*28*	*28*	*94*	79	87	88	88	96
Average unweighted in US-$	133	129	133	110	124	134	119	103	95	95	80	81	84	98	96	93	91	96
Inflation adjusted in 2007 US$	**211**	**197**	**197**	**158**	**174**	**183**	**157**	**134**	**121**	**118**	**96**	**95**	**96**	**111**	**105**	**99**	**94**	**96**
Weighted average in US-$	117	115	118	104	112	118	105	92	92	88	70	74	72	84	88	87	82	92
Inflation adjusted in 2007 US-$	**186**	**175**	**174**	**149**	**157**	**161**	**139**	**119**	**117**	**109**	**85**	**87**	**83**	**94**	**97**	**92**	**85**	**92**
Weighted average in Euro	92	93	91	89	94	91	83	81	82	82	76	83	76	74	71	69	68	67
Inflation adjusted in 2007 Euro	**139**	**133**	**125**	**118**	**122**	**115**	**103**	**98**	**98**	**97**	**88**	**94**	**85**	**81**	**76**	**72**	**70**	**67**

Sources: UNODC ARQ data and EUROPOL; UNODC estimates in italics

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
USA street price in US$	154	142	119	121	111	123	120	105	103	101	115	113	96	102	92	90	96	106	120
Inflation adjusted in 2007 US$	**244**	**216**	**176**	**173**	**156**	**168**	**159**	**135**	**130**	**126**	**139**	**132**	**111**	**115**	**102**	**95**	**99**	**106**	**115**
Purity adjusted (100%)	**265**	**226**	**178**	**175**	**166**	**202**	**165**	**161**	**149**	**155**	**186**	**194**	**137**	**148**	**134**	**132**	**130**	**162**	**225**
Purity and inflation adjusted	**421**	**343**	**263**	**251**	**232**	**275**	**217**	**208**	**189**	**193**	**224**	**227**	**158**	**166**	**147**	**140**	**134**	**162**	**216**

Sources: for 1990-06: Office of National Drug Control Policy, *The Price and Purity of Illicit Drugs: 1981-2007. Washington, DC, July 2008* and UNODC calculations for 2007 and 2008 based on ONDCP, The Price and Purity of Cocaine (STRIDE data); the purity adjusted price according to the first publication amounted to US$ 122 per gram in 2007 at 64% purity; according to STRIDE dataset (second source) street prices increased 24%, purity adjusted prices rose 72% over 2006-08 period, mainly due to falling purity levels (69% in 2006; 51% in 2008).

Wholesale price, US$/kg

EUROPE	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Austria	*66,000*	*66,000*	54,000	40,000	41,946	52,084	45,875	56,723	54,440	38,859	47,094	43,995	42,385	59,300	55,894	59,757	50,185	61,661
Belgium	*25,000*	24,000	38,250	28,000	26,920	30,560	21,927	17,025	19,167	23,859	22,376	26,771	28,111	29,610	32,480	*32,480*	*32,480*	47,958
Denmark	*80,000*	85,000	85,000	82,500	58,516	60,034	46,141	38,640	44,517	78,900	43,462	47,839	37,823	53,160	45,896	50,321	40,520	40,445
Finland	*79,500*	75,000	*62,750*	*52,500*	*82,500*	*95,450*	*91,750*	*61,550*	*89,350*	*78,460*	*68,321*	*59,492*	*51,804*	62,150	68,315	*68,315*	*56,611*	61,660
France	117,000	38,250	45,000	38,250	40,000	39,877	48,077	43,554	42,159	27,714	*27,000*	34,978	37,676	45,200	49,683	50,321	50,190	61,661
Germany	69,000	53,100	60,300	54,142	57,692	54,676	53,925	45,294	41,210	39,639	33,752	33,235	34,476	40,110	44,243	46,525	45,320	48,826
Greece	*75,000*	*90,000*	95,000	36,000	46,413	53,098	72,015	43,795	49,180	49,320	41,237	40,359	42,385	53,680	57,446	62,902	62,735	62,735
Italy	54,000	48,000	94,000	41,935	51,097	51,455	55,633	50,629	49,091	47,250	*46,000*	40,529	41,412	47,440	51,759	52,188	52,920	56,029
Luxembourg	*93,919*	95,939	113,521	50,847	157,593	141,343	47,625	43,103	41,072	47,718	*47,718*	*47,718*	*47,718*	*47,718*	31,052	31,450	*31,450*	31,451
Netherlands	26,500	*28,000*	29,500	26,500	24,680	33,232	23,894	29,698	22,355	27,500	*27,500*	*27,500*	*27,500*	27,400	33,775	*33,775*	*35,000*	42,409
Norway	120,000	*120,000*	127,500	*110,000*	39,971	*50,000*	41,670	60,028	81,699	57,545	51,417	51,569	54,159	56,500	65,209	*65,209*	*56,400*	61,661
Portugal	39,500	39,285	33,000	27,000	27,950	34,483	42,591	37,908	33,447	30,000	*28,000*	29,080	*31,046*	32,410	36,399	*36,399*	*31,365*	34,256
Spain	65,000	60,000	55,000	35,000	36,434	41,322	38,760	36,806	38,924	38,898	30,882	38,898	31,511	38,830	42,167	41,321	41,210	46,274
Sweden	*80,000*	*85,000*	*91,375*	*61,450*	*73,825*	55,556	59,255	45,573	50,484	48,508	38,394	34,693	35,763	43,130	39,560	40,068	*39,270*	51,883
Switzerland	63,900	94,250	116,250	50,847	72,012	75,949	51,587	40,780	41,152	*41,000*	35,482	23,392	19,274	37,230	44,008	*44,008*	*41,090*	44,351
United Kingdom	47,850	46,475	20,625	43,210	*45,000*	46,774	40,625	47,500	47,500	33,981	38,168	36,008	35,848	40,880	50,036	*50,036*	*50,943*	74,447
Ireland	45,000	*45,000*	*40,000*	*50,000*	*45,000*	*42,000*	31,646	33,733	31,530	29,891	*29,891*	*29,891*	*29,891*	30,510	*38,557*	*38,506*	*39,636*	82,214
Average unweighted	67,481	64,312	68,298	48,717	54,562	56,347	47,823	43,079	45,722	43,473	38,629	37,997	36,987	43,839	46,263	47,270	44,549	53,525
inflation adjusted	**107,051**	**97,904**	**100,934**	**69,903**	**76,336**	**76,660**	**63,198**	**55,651**	**58,160**	**54,104**	**46,512**	**44,485**	**42,629**	**49,400**	**50,780**	**50,184**	**45,829**	**53,525**
Weighted average in US$	67,793	51,895	57,392	43,998	47,040	48,150	47,754	43,975	43,434	38,491	35,580	36,095	35,950	42,322	46,913	47,772	46,996	55,958
Weighted average in US$ per gram	68	52	57	44	47	48	48	44	43	38	36	36	36	42	47	48	47	56
Inflation adjusted in 2007 US$	**107,547**	**79,002**	**84,816**	**63,132**	**65,812**	**65,509**	**63,106**	**56,809**	**55,250**	**47,904**	**42,841**	**42,259**	**41,433**	**47,690**	**51,493**	**50,717**	**48,347**	**55,958**
Inflation adjusted (gram)	**108**	**79**	**85**	**63**	**66**	**66**	**63**	**57**	**55**	**48**	**43**	**42**	**41**	**48**	**51**	**51**	**48**	**56**
Weighted in Euro (g)	**53**	**42**	**44**	**38**	**40**	**37**	**38**	**39**	**39**	**36**	**38**	**40**	**38**	**37**	**38**	**38**	**39**	**41**
Inflation adjusted in 2007 Euro (g)	**80**	**60**	**61**	**50**	**51**	**47**	**47**	**47**	**46**	**43**	**45**	**46**	**42**	**41**	**40**	**41**	**41**	**42**

Sources: UNODC ARQ, EUROPOL; UNODC estimates in *italics*

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
US wholesale price	45,430	48,300	48,100	44,730	42,180	38,640	35,700	34,320	31,960	30,870	29,580	21,500	23,000	21,500	22,066	20,500	26,500	31,000
US wholesale price per gram	45	48	48	45	42	39	36	34	32	31	30	22	23	22	22	21	27	31
Inflation adjusted in 2007 US$ (g)	**72**	**74**	**71**	**64**	**59**	**53**	**47**	**44**	**41**	**38**	**36**	**25**	**27**	**24**	**24**	**22**	**27**	**31**

Sources: ONDCP 1990-2000 (prices for 10-100 gram, at street purity), UNODC ARQ 2001-2007 (mid-point of min/max prices).

COCAINE

Retail and wholesale prices and purity levels: breakdown by drug, region and country or territory

(prices expressed in US$ or converted equivalent, and purity levels in percentage)

	RETAIL PRICE (per gram)				WHOLESALE PRICE (per kilogram)			
Region / country or territory	Typical	Range	Purity	Year	Typical	Range	Purity	Year
Africa								
East Africa								
Kenya	31.3	29.8 - 32.8	60.0 - 90.0	2007				
North Africa								
Algeria	18.8	17.4 - 20.2		2007				
Egypt	78.7	69.9 - 87.4		2006	62,179.2	53,296.5 - 71,062.0		2007
Morocco	7.0			2007				
Southern Africa								
Namibia	70.8	63.8 - 70.8	55.0 - 65.0	2007	68,119.9			2004
(Crack)	14.2	12.8 - 14.2	25.0 - 71.0	2007	15,137.8		70.0	2004
South Africa	35.4			2007				
(Crack)	7.1			2007				
Swaziland	35.4			2007				
Zambia	37.8			2007	36,532.2	35,272.5 - 37,791.9		2007
Zimbabwe (Crack)	27.1	22.6 - 29.3		2007	13,539.5	9,026.3 - 15,796.0		2007
West and Central Africa								
Burkina Faso (Coca Base)	55.3	46.1 - 64.5		2006				
Cameroon	31.3	20.9 - 52.2		2007		20,889.1 - 208,891.4		2007
Congo R.(Coca Base)	6.0	6.0 - 10.0		2005	3,708.1	1,854.1 - 3,708.1		2004
Gabon	92.2	64.5 - 129.0		2006	92,710.0			2006
Gambia	23.0	20.9 - 23.0		2007	21,920.7	20,876.8 - 22,964.5		2007
(Crack)					19,311.1	18,789.1 - 19,833.0		2007
Ghana	21.3	19.8 - 22.9	9.0 - 95.0	2007	20,295.7	18,734.5 - 21,856.9	70.0 - 96.0	2007
Guinea	20.0	18.0 - 22.0		2006	20,000.0	18,000.0 - 22,000.0		2006
Mali	62.7			2007				
Nigeria	32.5	24.3 - 40.6		2007	19,610.0	17,650.0 - 26,470.0		2006
Togo	29.9	29.9 - 33.9		2005	22,978.1			2007
Americas								
Caribbean								
Anguilla	17.5	15.0 - 20.0		2005	17,500.0	15,000.0 - 20,000.0		2005
Bahamas	20.0	20.0 - 50.0		2004	9,000.0	9,000.0 - 15,000.0		2004
(Crack)	5.0	5.0 - 10.0		2004				
Barbados	20.8	14.9 - 27.2		2007	17,326.7	14,851.5 - 19,802.0		2007
(Crack)	15.8	9.9 - 22.3		2007				
Dominica	57.5	55.0 - 60.0		2004	38,000.0	35,000.0 - 50,000.0	80.0 - 98.0	2005
(Crack)	55.0		60.0 - 98.0	2005				
Dominican R.	7.8			2005	6,200.0			2007
Grenada	36.9	33.2 - 44.3		2005	9,223.4	8,116.6 - 9,961.2		2005
(Crack)	33.2	29.5 - 36.9		2005				
Haiti	10.0	8.0 - 12.0		2004	6,500.0	5,000.0 - 8,000.0		2004
Jamaica (Coca base)					5,795.0	5,410.0 - 6,180.0		2006
(Crack)					5,795.0	5,410.0 - 6,180.0		2006
Montserrat (Coca Base)	59.0	55.9 - 62.1		2004	8,880.9	8,197.7 - 9,564.0		2004
St. Lucia	9.3	7.5 - 11.2		2004	21,115.4	24,841.6 - 31,052.0		2004
St. Vincent & Grenadines					5,534.0	5,534.0 - 7,378.7		2005
Trinidad Tobago	63.9			2006	6,390.0			2006
Turks and Caicos Islands	20.0	10.0 - 30.0		2006	9,000.0	8,000.0 - 10,000.0		2006
(Crack)	10.0			2005				
Central America								
Belize	7.5	7.5 - 12.5	90.0 - 96.0	2005	7,447.2	6,454.3 - 7,447.2	90.0 - 96.0	2007
(Crack)	14.9	12.4 - 14.9		2007	30,000.0	30,000.0 - 35,000.0		2004
Costa Rica	14.0	12.0 - 16.0		2006	5,825.6	4,854.6 - 6,796.5	25.0 95.0	2007
(Crack)	9.0	6.0 - 12.0		2006				
El Salvador	24.0	23.0 - 25.0		2007	24,000.0	23,000.0 - 25,000.0		2007
(Crack)	24.0	23.0 - 25.0		2007	24,000.0	23,000.0 - 25,000.0		2007
Guatemala	13.0	9.7 - 13.0	85.0 - 90.0	2007	7,799.3	7,799.3 - 10,399.1	90.0 - 95.0	2007
(Crack)	9.7	7.8 - 9.7	45.0 - 50.0	2007	3,899.6	1,949.8 - 3,899.6	45.0 - 60.0	2007
Honduras	7.6			2006	10,473.0	8,950.0 - 15,000.0	90.0 - 96.0	2005
(Crack)	5.3	2.6 - 7.9	35.0 - 50.0	2005				
Panama	2.0		1.0 - 100.0	2005	2,500.0			2005
(Crack)	1.0		1.0 - 100.0	2005	2,500.0		50.0 - 60.0	2005
North America								
Canada	96.8	37.6 - 188.0	75.1 (0.8 -100)	2007	33,834.6	25,375.9 - 41,353.4	75.1 (0.8 -100)	2007
(Crack)	134.4	75.2 - 188.0	79.7 (22 -99)	2007	33,834.6		79.7 (22 -99)	2007
Mexico					12,500.0		90	2007
United States	97.4	10.0 - 350.0	65	2007	28,500.0	10,000.0 - 52,000.0		2007
(Crack)	125.4	12.0 - 200.0		2007	22,500.0	13,000.0 - 32,000.0		2007

COCAINE

Retail and wholesale prices and purity levels: breakdown by drug, region and country or territory

(prices expressed in US$ or converted equivalent, and purity levels in percentage)

	RETAIL PRICE (per gram)				WHOLESALE PRICE (per kilogram)			
Region / country or territory	Typical	Range	Purity	Year	Typical	Range	Purity	Year
South America								
Argentina	5.9	3.5 - 8.3		2004	4,800.0	2,600.0 - 7,000.0		2004
Bolivia	3.5	3.0 - 4.0	90	2007	2,250.0	2,000.0 - 2,500.0		2007
(Coca Base)	1.7	1.4 - 2.0		2007	1,000.0			2007
Brazil	12.0	10.0 - 13.0	15.0 - 36.0	2005	3,000.0	2,000.0 - 7,000.0	80.0 - 98.0	2005
(Crack)	6.0	3.0 - 8.0		2005	2,000.0	1,500.0 - 3,000.0		2005
Chile	26.6	10.6 - 42.6		2007	14,600.0	3,617.0 - 25,531.0		2007
(Coca Base)	9.6	2.1 - 17.0		2007	2,872.0	1,489.0 - 4,255.0		2007
Colombia					2,198.0		87.0 - 95.0	2007
(Coca Base)					1,959.0			2007
Ecuador					4,000.0	3,500.0 - 4,000.0		2007
(Coca Base)	2.0	1.0 - 3.0		2006	1,900.0	1,800.0 - 2,000.0		2007
Guyana	5.0			2005	4,900.0	4,600.0 - 5,000.0		2005
(Crack)	4.5			2005	4,500.0	4,400.0 - 4,600.0		2005
Paraguay					6,930.0			2004
(Crack)	25.0	30.0 50.0		2007				
Peru	4.5			2006	851.0			2007
(Coca paste)	1.0			2006	600.0			2007
Uruguay	10.0			2006	7,000.0	6,000.0 - 8,000.0		2007
(Coca Base)					5,500.0	5,000.0 - 6,000.0		2007
(Crack)					3,000.0	2,800.0 - 3,400.0		2006
Venezuela	9.3	7.0 - 11.6		2006	4,190.0	5,120.0 - 6,980.0	85.0 - 90.0	2006
(Crack)	1.2	0.9 - 1.9		2006	700.0	930.0 - 1,160.0		2006
Asia								
East and South-East Asia								
Hong Kong SAR, China	93.6	71.5 - 135.9		2007	33,386.8	16,035.9 - 45,542.0		2007
(Crack)	100.1	73.8 - 120.8		2007	32,071.8	31,430.4 - 32,071.8		2007
Indonesia	111.7	106.4 - 117.0		2006	110,071.5			2007
Japan	212.5	170.0 - 339.9		2007	88,385.3	59,490.1 - 118,980.2		2007
Malaysia					53,620.0			2006
Philppines	102.0			2006	90,661.8			2005
Thailand	86.9	72.4 - 101.3		2007	44,590.0	38,220.0 - 50,960.0		2006
Near and Middle East /South-West Asia								
Bahrain	159.1	132.6 - 185.6		2005				
Iran	126.3			2005				
Israel	80.0	60.0 - 120.0		2007	59,000.0	53,000.0 - 74,000.0		2007
Jordan	91.1	84.1 - 98.1		2007	70,081.0	63,072.9 - 84,097.2		2007
Lebanon	45.0	40.0 - 50.0	70.0 - 90.0	2007	30,000.0	20,000.0 - 40,000.0		2007
(Coca Base)	60.0	50.0 - 70.0	80.0 90.0	2007	55,000.0	40,000.0 70,000.0	80.0 90.0	2007
Saudi Arabia	119.8	119.8		2008				
Syrian Arab Republic (Coca Base	50.0	40.0 - 60.0	60 (50-70)	2007	40,000.0	30,000.0 - 50,000.0	70 (60-80)	2007
Europe								
East Europe								
Belarus	120.0	100.0 - 150.0		2007	60,000.0			2005
Moldova R.	138.0	125.5 - 150.6		2006	100,000.0	80,000.0 - 120,000.0		2005
Russian Federation	218.0	102.1 - 458.3	38.0 - 54.0	2007	126,481.0		70.0 - 90.0	2007
(Cocaine base)	150.0	50.0 - 258.3		2007				
Ukraine	160.0	120.0 - 200.0		2007				
(Crack)	250.0	200.0 - 300.0		2007				
Southeast Europe								
Albania	75.4	61.7 - 89.1		2007	51,383.9	47,958.3 - 54,809.5		2007
Bosnia and Herzegovina	82.2	68.5 - 95.9		2007	41,107.2	37,681.6 - 44,532.7		2007
Bulgaria	77.0	70.0 - 84.0	30 (9 - 80)	2007	56,006.7	42,005.0 - 92,761.1	15.0 - 91.0	2007
Croatia	55.9	46.6 - 74.6	30 (20-40)	2007	26,104.8	22,375.5 - 31,698.7	60 (40-80)	2007
FYR of Macedonia	50.3	37.7 - 62.9		2005	34,596.0	31,450.9 - 37,741.1		2005
Romania	137.0	109.6 - 164.4	65.0 85.0	2007	58,920.3	57,550.0 - 60,290.5		2007
Serbia	82.2	54.8 - 109.6	60 (50 - 80)	2007	47,958.3	41,107.2 - 54,809.5	80 (60 - 90)	2007
Turkey	89.1	68.5 - 109.6	23.4 84.8	2007	61,660.7	54,809.5 - 68,511.9	59.2 (23.4-84.8)	2007
West and Central Europe								
Andorra	82.2			2007	82,214.3			2007
Austria	99.3	82.2 - 116.5	41 (8-100)	2007	61,660.7	47,958.3 - 75,363.1	38 (8-100)	2007
Belgium	67.1	27.4 - 137.0	1.2 - 82.1	2007	47,958.3	41,107.2 - 54,809.5		2007
Cyprus	117.2	93.2 - 141.1		2007	42,141.7			2007
Czech Republic	102.8	60.3 - 175.4	5.0 - 56.5	2007	93,847.6	60,057.6 - 100,109.6	63.4 - 85.3	2007
Denmark	73.5	55.2 - 101.1		2007	40,444.9	27,576.1 - 55,152.1		2007

COCAINE

Retail and wholesale prices and purity levels:
breakdown by drug, region and country or territory
(prices expressed in US$ or converted equivalent, and purity levels in percentage)

	RETAIL PRICE (per gram)				WHOLESALE PRICE (per kilogram)			
Region / country or territory	Typical	Range	Purity	Year	Typical	Range	Purity	Year
Estonia	100.7	87.6 - 113.8		2007	35,029.3			2007
Finland	109.6	82.2 - 137.0		2007	61,660.7	54,809.5 - 68,511.9	40 (10 - 87)	2007
France	95.9	82.2 - 109.6	10.0 - 40.0	2007	41,107.2	36,996.4 - 54,809.5	60 (20-80)	2007
(Crack)	72.3			2006				
Germany	86.2		37.1 (0.1 -97.1)	2007	48,825.7		84.8 (8.6-99)	2007
(Crack)	69.0			2006				
Greece	109.8	94.1 - 125.5		2006	62,735.0	50,190.0 - 75,280.0	50.2	2006
Hungary	80.3	68.9 - 91.8	30 (5 -80)	2007	46,674.4			2006
(Crack)	76.6	62.3 - 90.8		2007				
Iceland	163.5			2006				
Ireland	95.9	82.2 - 123.3	10 (3.4 -28)	2007	82,214.3	68,511.9 - 95,916.7	27 (2.5 -77)	2007
Italy	111.8	97.4 - 126.2		2007	56,029.1	49,931.5 - 62,126.6	47	2007
Latvia	88.0	58.7 - 117.4	6.0 - 81.0	2007	49,873.8	37,160.9 - 62,586.8		2007
Liechtenstein	100.4	58.6 - 125.5		2007				
Lithuania	75.1	54.8 - 99.3	46 (26 - 86)	2007	38,525.6	35,745.4 - 43,080.3	46 (26 - 86)	2007
Luxembourg	89.1	41.1 - 137.0	54.7 (4.3 - 97.1)	2007	31,450.9			2006
Malta	116.8	101.1 - 162.2	47.7 (31.4-63.4)	2007	72,770.0	63,990.0 - 81,550.0	26.7 - 65.8	2006
Netherlands	58.9			2007	42,408.9			2007
Norway	164.4	123.3 - 205.5	40 (10 - 70)	2007	61,660.7	41,107.2 - 82,214.3	40 (20 - 100)	2007
Poland	63.7	41.1 - 86.3		2007	38,538.0	25,692.0 - 51,383.9	20.0 - 88.0	2007
(Crack)	94.4	88.1 - 100.6		2006				
Portugal	55.5		48.1(1.5 -96.4)	2006	34,256.0		78.4 (41.6 - 92.5)	2007
Slovakia	109.6	95.9 - 137.0	30.0 - 40.0	2007	102,767.9	89,065.5 - 132,913.1	40.0 - 70.0	2007
Slovenia	82.2			2007	47,958.3			2007
Spain	83.2		50.5	2007	46,274.3		72.5	2007
Sweden	96.4	59.3 - 133.4	20.0 70.0	2007	51,882.6	44,470.8 - 59,294.4	20.0 70.0	2007
Switzerland	75.3	29.3 - 133.1	39	2007	44,351.5	25,104.6 - 66,945.6	62.0 - 95.0	2007
United Kingdom	90.5	60.4 - 140.8	33.2 (11- 91)	2007	74,446.7	48,289.7 - 68,410.5	67.7 (11- 91)	2007
(Crack)	130.8	80.5 - 301.8	52.3 (2- 98)	2007	70,422.5	60,362.2 - 80,482.9	48.0 - 89.0	2007
OCEANIA								
Australia	285.4	167.5 - 418.7	0.4 89.6	2007	146,538.9	113,044.3 - 167,473.0	1.1 - 90.0	2007
New Zealand	311.7	183.4 - 440.1		2007				

3.4.3 Cannabis: Wholesale, street prices and purity levels

CANNABIS HERB

Retail and wholesale prices and purity levels:
breakdown by drug, region and country or territory

(prices expressed in US$ or converted equivalent, and purity levels in percentage)

						WHOLESALE PRICE (per kilogram)			
Region / country or territory	Typical	Range	Purity	Year		Typical	Range	Purity	Year
Africa									
East Africa									
Eritrea	3.3	3..33 - 4.3	5.0	2005		400.0	400.0 - 466.7		2005
Kenya	0.2	0.1 - 0.2		2007		96.9	64.6 - 129.2		2004
Madagascar	0.02	0.02 - 0.1	2.0 - 10.0	2005		15.1	18.9 - 25.2	2.0 - 10.0	2005
Mauritius	9.7			2007		4,846.8			2007
Rwanda	0.13	0.1 - 0.2		2004					
Seychelles									
Uganda	0.06	0.09 - 0.1		2005		150.0	100.0 - 200.0		2005
North Africa									
Egypt	2.7	1.8 - 3.6		2007		35.5	26.6 - 44.4		2007
Southern Africa									
Malawi	0.16	0.12 - 0.20	35.0 - 65.0	2006		10.0			2006
Namibia	0.4	0.3 - 0.7		2007		45.4	53.0 - 68.1		2004
South Africa	0.1			2007		22.7	15.1 - 30.3		2004
Swaziland	0.5	0.5 - 0.6		2007		53.1	49.6 - 56.7		2007
Zambia	0.3	0.2 - 0.3		2007		189.0	176.4 - 201.6		2007
Zimbabwe	0.1	0.1 - 0.1		2006		67.7	63.2 - 72.2		2007
West and Central Africa									
Burkina Faso	0.2	0.2 - 0.5		2006		10.0			2006
Cameroon	0.02	0.0 - 0.1		2006		104.4	52.2 - 208.9		2007
Central African Rep.	0.09			2006		10.0			2006
Congo Rep.	0.2	0.2 - 0.4		2004		29.9	23.2 - 29.9		2005
Gabon	1.8	0.9 - 3.7		2006		150.0	110.0 - 180.0	3.0 - 7.0	2006
Gambia	1.0	0.4 - 1.0		2007		93.9	83.5 - 104.4		2007
Ghana	0.8	0.4 - 1.1		2007		13.6	10.9 - 16.3		2007
Guinea	0.01	0.01 - 0.02		2006		10.0	10.0 - 20.0		2006
Mali	0.2			2007		26.1			2007
Niger	0.03	0.03 - 0.04		2006					
Nigeria	0.2	0.2 - 0.3		2007		20.0			2006
Togo	0.10	0.06 - 0.2		2007					
Americas									
Caribbean									
Anguilla	12.5	10.0 - 15.0		2005		12,500.0	10,000.0 - 15,000.0		2005
Bahamas	9.8	4.9 - 14.7		2007		2,308.9	2,063.3 - 2,554.5		2007
Barbados	3.5	2.5 - 4.5		2007		1,485.1	990.1 - 1,980.2		2007
Bermuda	124.1			2006					
Dominica	32.5	25.0 - 40.0		2005		2,150.0	1,800.0 - 2,500.0		2005
Dominican Rep.						700.0			2007
Grenada	1.8	1.1 - 3.0		2005		295.2	221.4 - 442.7		2005
Haiti	0.6	0.5 - 0.6		2004		55.0	50.0 - 60.0		2004
Jamaica	0.13			2007		94.5	58.2 130.9		2007
Montserrat	25.1	24.0 - 25.8		2006		420.0	410.0 - 440.0		2006
St. Lucia	3.7	3.7 - 5.6		2004		298.5	559.7 - 671.6		2004
St. Vincent & Grenadines						368.9	295.2 - 442.7		2005
Trinidad Tobago	1.6			2006		1,600.0			2006
Turks & Caicos Islands	10.0	10.0 - 15.0		2006		700.0	600.0 - 900.0		2006
Central America									
Belize	2.5	1.0 - 2.5		2007		198.6	148.9 - 248.2		2007
Costa Rica	3.9			2007		582.6	485.5 - 582.6		2007
El Salvador	1.0	1.0 - 1.14		2007		1,040.0	1,000.0 - 1,070.0		2007
Guatemala	0.2	0.2 - 0.3		2007		130.0	104.0 - 130.0		2007
Honduras	0.5			2006		92.6	69.5 - 115.8		2005
Panama	10.0			2005		50.0			2005
North America									
Canada	15.0	8.5 - 28.2	10.5 (0.3 - 50)	2007		4,714.3	2,349.6 - 9,398.5	10.5 (0.3 - 50)	2007
Mexico						80.0			2007
United States	10.4		4.78 (0.3 - 13.5)	2007		2,000.0	338.0 - 44,200.0	4.78 (0.3 - 13.5)	2007
South America									
Argentina	1.3	1.0 - 1.6		2004		400.0	300.0 - 500.0		2005
Bolivia	0.8	0.6 1.0		2007		115.0	80.0 150.0		2007
Brazil	0.3	0.3 - 0.8		2005		150.0	100.0 - 180.0	4.0	2005
Chile	5.3	2.1 - 8.5		2007		1,223.0	277.0 - 2,127.0		2007

CANNABIS HERB

Retail and wholesale prices and purity levels:
breakdown by drug, region and country or territory

(prices expressed in US$ or converted equivalent, and purity levels in percentage)

	RETAIL PRICE (per gram)				WHOLESALE PRICE (per kilogram)			
Region / country or territory	Typical	Range	Purity	Year	Typical	Range	Purity	Year
Colombia	0.4			2005	40.3			2005
Ecuador	1.0	1.0 - 2.0		2007	450.0	400.0 - 500.0		2007
Guyana	0.5			2005	440.0	435.0 - 445.0		2005
Paraguay	0.05	0.05 - 0.10		2007	30.0	25.0 - 50.0		2007
Uruguay	1.2	0.9 - 1.5		2006	350.0	300.0 - 400.0		2007
Venezuela	1.9	1.4 - 2.3		2006	90.0	120.0 - 160.0		2006
Asia								
Central Asia and Transcaucasia								
Armenia	4.0	3.0 - 5.0		2007	1,500.0			2005
Georgia	2.5	2.0 - 3.0		2007				
Kazakhstan	0.35	0.3 - 0.4		2007	150.0	100.0 - 200.0		2007
Kyrgyzstan	0.45	0.40 - 0.50		2007	57.6	49.4 - 65.8		2007
Tajikistan				2004	140.0	117.0 - 161.0		2004
Turkmenistan	1.5	0.8 - 2.3		2006	33.8	17.5 - 50.0		2007
Uzbekistan	2.0	1.0 - 3.0		2007	350.0	200.0 - 500.0		2007
East and South-East Asia								
Brunei Darussalam	66.5			2007	5,986.7			2007
China	0.8	0.6 - 1.2		2004				
Hong Kong SAR, China	8.3	5.1 - 12.8		2007	1,833.5	1,282.9 - 2,437.5		2007
Indonesia	0.2	0.2 - 0.3		2007	244.9	220.1 - 275.2		2007
Japan	51.0	25.5 - 102.0		2007	16,997.2			2007
Korea, Rep.	6.8	2.2 - 13.0		2007	1,086.0			2007
Laos					14.0	14.0 - 16.0		2004
Macau SAR, China	12.0	10.0 - 15.0		2006	2,350.0	2,200.0 - 2,500.0		2006
Malaysia					423.0	160.0 - 686.0		2006
Mongolia	2.1	1.7 - 2.1		2007				
Myanmar	0.2	0.1 - 0.2		2007	130.0	100.0 - 160.0		2006
Philippines	0.5	0.4 - 0.9		2005	475.0	450.0 - 500.0		2007
Republic of Korea	6.5	2.1 - 12.5		2006	1,040.0			2006
Singapore	22.2			2007	2,527.7	2,394.7 - 2,660.8		2007
Thailand	1.4			2007	217.2	144.8 - 289.5		2007
Near and Middle East /South-West Asia								
Afghanistan					56.0			2007
Israel	4.5	39.0 - 9.0		2007	320.0	150.0 - 600.0		2007
Jordan	7.0	5.6 - 8.4		2007				
Lebanon	15.0	10.0 - 20.0		2007	1,250.0	1,000.0 - 1,500.0		2007
South Asia								
Bangladesh	0.20	0.20 - 0.30	6.0 - 8.0	2006	29.3	21.9 - 36.6	6.0 - 7.0	2007
India					85.0	50.0 - 125.0		2006
Nepal	0.76	0.45 - 0.91		2007	30.2	22.7 - 37.8		2007
Sri Lanka	0.14	0.09 - 0.18		2007				
Europe								
East Europe								
Belarus	7.0	2.0 - 15.0		2007	1,000.0	800.0 - 7,000.0		2007
Moldova R.	1.6	1.2 - 2.4		2005				
Russian Federation	6.7			2007	2,984.3		1.0 - 3.0	2007
Ukraine	3.0			2007	1,500.0	1,000.0 - 2,000.0		2007
Southeast Europe								
Albania	1.5	1.4 - 1.6		2007	157.6	137.0 - 178.1		2007
Bosnia and Herzegovina	2.1	1.4 - 2.7	0.6 - 4.1	2007	685.1	548.1 - 822.1		2007
Bulgaria	1.0	0.9 - 1.2	1.5 (0.01 - 7)	2004	1,400.2		0.2 - 6.8	2007
Croatia	2.8	1.9 - 3.7		2007	745.9	652.6 - 839.1		2007
FYR of Macedonia	1.6	1.3 - 1.9		2005	670.0	590.0 - 750.0		2005
Romania	8.9	8.2 - 9.6	0.5 - 3.0	2007	1,918.3	1,781.3 - 2,055.4		2007
Serbia	2.1	1.4 - 4.1		2007	411.1	137.0 - 685.1		2007
Turkey	4.1	2.7 - 5.5		2007	479.6	411.1 - 548.1	2.9 (0.07 - 10.2)	2007
West & Central Europe								
Andorra	7.6			2005				
Austria	13.0	12.3 - 13.7	5.1 (0.3-37)	2007	4,110.7	3,425.6 - 4,795.8	6.2 (0.3-37)	2007
Belgium	7.7	3.4 - 17.1		2007	5,138.4	4,110.7 - 6,166.1		2007
Cyprus	18.3			2006	3,511.9			2007
Czech Republic	8.2	1.0 - 17.8	0.2 - 26.9	2007	6,357.9	1,000.3 - 12,510.3	0.02 - 20.0	2007
Estonia	24.1	21.9 - 26.3		2007	4,378.7			2007

CANNABIS HERB

Retail and wholesale prices and purity levels:
breakdown by drug, region and country or territory

(prices expressed in US$ or converted equivalent, and purity levels in percentage)

	RETAIL PRICE (per gram)				WHOLESALE PRICE (per kilogram)			
Region / country or territory	Typical	Range	Purity	Year	Typical	Range	Purity	Year
Finland	24.0	20.6 - 27.4	3.2 (0.1-14)	2007	12,332.1		4.3 (0.1-13)	2007
France	8.2	6.9 - 9.6		2007	3,425.6	2,877.5 - 5,481.0	2.0 - 6.0	2007
Germany	11.2		8.9 (0.2-44.5)	2007	4,521.8		7.5 (0.04-18.6)	2007
Greece	4.1	1.9 - 6.3		2006	630.0	380.0 - 880.0		2006
Hungary	11.9	9.6 - 14.1	0.20 - 10.0	2007	2,780.3			2005
Iceland	41.7			2007				
Ireland	6.9	2.7 - 8.2		2007	16,442.9	10,961.9 - 16,442.9		2007
Italy	10.0	9.1 - 10.9		2007	1,717.7	1,486.1 - 1,949.3		2007
Latvia	14.7	9.8 - 19.6		2007	7,627.8	6,845.4 - 8,410.1		2007
Liechtenstein	8.4	4.2 - 10.0		2007				
Lithuania	15.9	7.9 - 26.2		2007	5,957.8	4,765.7 - 7,148.5		2007
Luxembourg	11.0		10.2 (3.5 - 31.1)	2007	4,403.1	3,774.1 - 5,032.1		2005
Malta	4.0	3.4 - 5.5	4.5 (3.2 - 7.6)	2007	8,660.0	7,900.0 - 9,410.0	5.3 - 24.4	2006
Netherlands (Nederwiet)	7.3		16	2007	4,506.7			2007
Norway	27.4	20.6 - 34.3		2007				
Poland	11.6	9.6 - 13.7	0.2 - 4.2	2007	5,140.0	3,260.0 - 9,910.0		2006
Portugal	6.4		3.9 (0.1-11.7)	2007	565.0	440.0 - 690.0	3.9 (0.1-11.7)	2006
Slovakia	6.9	4.1 - 13.7	13.0 - 25.0	2007	3,083.0	2,192.4 - 4,110.7	15 (10 - 25)	2007
Slovenia	8.2			2007	753.6			2007
Spain	4.2			2007	1,103.0			2007
Sweden	11.5	8.6 - 14.4		2006	9,635.3	4,447.1 - 14,823.6		2007
Switzerland	8.4	2.5 - 15.1	7.4 (1 - 20)	2007	4,602.5	2,092.1 - 8,368.2	7.4 (1 - 20)	2007
United Kingdom	8.0	6.0 - 14.1		2007	2,615.7	1,509.1 - 5,835.0	9.5 (1 - 28)	2007
Oceania								
Australia	20.9	12.6 - 29.3		2007	6,112.8	4,689.2 - 8,373.7		2007
Marshall Isl.					575.0	500.0 - 650.0		2004
New Zealand	16.5	14.7 - 18.3		2007	6,071.4	5,000.0 - 7,142.9	3.0	2005

CANNABIS HERB

Retail and wholesale prices and purity levels:
breakdown by drug, region and country or territory
(prices expressed in US$ or converted equivalent, and purity levels in percentage)

	RETAIL PRICE (per gram)				WHOLESALE PRICE (per kilogram)			
Region / country or territory	Typical	Range	Purity	Year	Typical	Range	Purity	Year

CANNABIS OIL

Retail and wholesale prices and purity levels:
breakdown by drug, region and country or territory
(prices expressed in US$ or converted equivalent, and purity levels in percentage)

	RETAIL PRICE (per gram)				WHOLESALE PRICE (per kilogram)			
Region / country or territory	Typical	Range	Purity	Year	Typical	Range	Purity	Year
Americas								
Caribbean								
Anguilla	12.5	10.0 - 15.0		2005	12,500.0	10,000.0 - 15,000.0		2005
Bahamas	35.0	20.0 - 50.0		2004	4,000.0	3,000.0 - 5,000.0		2004
Jamaica					150.0	150.0 - 310.0		2006
North America								
Canada	24.4	7.5 - 47.0	25.0 - 51.0	2007	920.0	580.0 - 1,930.0	25.0 - 51.0	2006
USA							10.2 - 16.9	2007
Asia								
East and South-East Asia								
Philippines					3,989.1			2005
South Asia								
Maldives	76.9			2006	76,930.0			2006
Near and Middle East /South-West Asia								
Jordan					8,410.0	7,710.0 - 9,110.0		2006
Europe								
Southeast Europe								
Albania					1,250.0	1,000.0 - 1,500.0		2005
West and Central Europe								
Spain	13.2	14.9		2007	2,824.1			2007
Oceania								
Australia	41.9			2007 P				

CANNABIS RESIN

Retail and wholesale prices and purity levels: breakdown by drug, region and country or territory

(prices expressed in US$ or converted equivalent, and purity levels in percentage)

	RETAIL PRICE (per gram)					WHOLESALE PRICE (per kilogram)				
Region / country or territory	Typical	Range		Purity	Year	Typical	Range		Purity	Year
Africa										
East Africa										
Eritrea	6.7	6.7 -	10.0	2.0 - 10.0	2005	666.7	666.7 -	800.0		2005
Kenya	6.0	4.5 -	7.5		2007					
Madagascar	0.3	0.1 -	0.4		2004	125.8	88.1 -	188.7		2005
North Africa										
Algeria	2.2	1.4 -	2.9		2007					
Egypt	2.7	1.3 -	4.2		2007	1,154.8	888.3 -	1,421.2		2007
Libya	15.4	6.9	24.0		2005	1,378.0	1,181.1 -	1,574.8		2005
Southern Africa										
South Africa	12.9				2007					
Zambia	0.47	0.45 -	0.48		2007	453.5	440.9 -	466.1		2007
West and Central Africa										
Congo Rep.	0.3	0.3 -	0.5		2004	27.8	37.1 -	46.4		2004
Gambia	1.5	0.8 -	2.1		2007	1,357.0	1,252.6 -	1,461.4		2007
Americas										
Caribbean										
Bahamas	34.4	29.5 -	98.3		2007	2,554.5	2,259.8 -	2,849.3		2007
Bermuda						13,130.0	10,940.0	15,320.0		2006
Turks & Caicos Islands	15.0				2004	800.0	600.0 -	900.0		2004
North America										
Canada	17.9	9.4 -	37.6	25.8 (0.3 - 75)	2007	6,622.2	2,631.6 -	11,278.2	25.8 (0.3 - 75)	2007
USA	100.0				2006	9,000.0			5.8 - 27.8	2007
South America										
Brazil	2.0	1.5 -	3.0		2005					
Colombia	1.9				2004					
Paraguay	10.0	10.0 -	30.0		2007	450.0	300.0 -	500.0		2007
Asia										
Central Asia and Transcaucasia										
Armenia	35.0	30.0 -	40.0		2007	10,000.0				2005
Georgia	9.0	8.0 -	10.0		2007					
Kazakhstan	3.5	1.5 -	7.2		2004	1,500.0	1,000.0 -	2,000.0		2007
Kyrgyzstan	2.3	2.0 -	2.5		2007	2,305.5	1,976.0 -	2,635.0		2007
Tajikistan	2.0	1.0 -	3.0		2006	450.0	200.0 -	800.0		2007
Turkmenistan	2.0	2.5	3.0		2006	50.0	50.0 -	60.0		2006
Uzbekistan	5.0	3.0 -	7.0		2007	1,000.0	600.0 -	1,500.0		2007
East and South-East Asia										
Hong Kong SAR, China	9.6	7.3 -	12.3		2007	2,613.9	1,667.7 -	3,848.6		2007
Indonesia	8.3				2007					
Japan	59.5	42.5 -	85.0		2007	5,825.2				2005
Macau SAR, China	12.0	10.0 -	15.0		2006					
Mongolia	6.2	6.0 -	6.4		2007					
Philippines	0.5				2006	453.3	362.7 -	544.0		2005
Republic of Korea	43.4	32.6 -	54.3		2007					
Near and Middle East /South-West Asia										
Afghanistan	0.05	0.04	0.1		2005	56.0	27.0 -	100.0		2007
Bahrain	106.07	79.55 -	132.6		2005	3,712.5	3,182.2 -	3,977.7		2005
Iran (Islamic Republic of)	0.7	0.2 -	1.5		2007	344.6	96.9 -	613.7		2007
Israel	4.5	3.0 -	9.0		2007	3,200.0	2,300.0 -	4,100.0		2007
Jordan	7.0	5.6 -	9.8		2007	1,681.9	1,261.5 -	2,242.6		2007
Lebanon	7.5	5.0 -	10.0		2007	750.0	500.0 -	1,000.0		2007
Oman	38.8	25.9 -	51.8		2007	2,071.7	1,553.8 -	2,589.6		2007
Pakistan	0.1	0.1 -	0.2		2007	166.6	124.8 -	208.4		2007
Saudi Arabia	13.0		26.6		2008					
Syrian Arab Republic	1.2	1.0 -	1.4		2007	1,000.0	800.0 -	1,200.0		2007
United Arab Emirates	95.0	90.0 -	100.0		2006	1,650.0	1,600.0 -	1,700.0		2006
South Asia										
Bangladesh	2.2	2.1 -	2.5	7.0 - 10.0	2006	1,100.0	900.0 -	1,300.0		2006
India						550.0	370.0 -	730.0		2006

CANNABIS RESIN

Retail and wholesale prices and purity levels: breakdown by drug, region and country or territory

(prices expressed in US$ or converted equivalent, and purity levels in percentage)

	RETAIL PRICE (per gram)					WHOLESALE PRICE (per kilogram)				
Region / country or territory	Typical	Range		Purity	Year	Typical	Range		Purity	Year
Nepal	3.0	2.3 -	4.5		2007	105.7	75.5 -	120.8		2007
Europe										
East Europe										
Belarus	20.0	10.0 -	30.0		2007	5,000.0	3,000.0 -	7,000.0		2007
Moldova R.	5.6	4.8 -	6.4		2005					
Russian Federation	20.5	3.1 -	72.9		2007	11,407.7	397.7 -	41,666.7		2007
Ukraine	8.0				2007					
Southeast Europe										
Albania						275.0	250.0 -	300.0		2006
Bosnia and Herzegovina	8.2	6.9 -	9.6		2007					
Bulgaria				5 (1 - 8.6)	2007	1,750.2			8 (5.5 - 11)	2007
FYR of Macedonia	2.8	1.9 -	3.8		2005	817.7	629.0 -	1,006.4		2005
Romania	11.0	9.6 -	12.3	4.0 - 15.0	2007	3,151.5	3,014.5 -	3,288.6		2007
Serbia	3.4	1.4 -	6.9		2007	1,027.7	685.1 -	1,370.2		2007
Turkey	8.2	6.9 -	9.6		2007	1,507.3	1,370.2 -	2,740.5	5.5 (2.5 - 10.6)	2007
West and Central Europe										
Andora	8.2				2007	8,221.4				2007
Austria	12.3	11.0 -	13.7	6.3 (0.07 - 49)	2007	3,768.2	2,740.5 -	4,795.8	6.3 (0.07 - 49)	2007
Belgium	8.2	2.7 -	15.1		2007	5,823.5	4,795.8 -	6,851.2		2007
Cyprus	21.2	19.2 -	23.3		2007	4,682.1				2007
Czech Republic	10.7	6.5 -	21.6	4.0 - 17.0	2006	7,961.1	2,507.5 -	15,017.8		2007
Denmark	6.5	4.1 -	16.2		2006	3,309.1	1,838.4 -	4,044.5		2007
Estonia	12.0				2006	7,005.9				2007
Finland	15.1	13.7 -	16.4		2007	3,768.2	2,740.5 -	4,795.8		2007
France	6.9	5.5 -	8.2		2007	2,055.4	1,781.3 -	2,740.5	12 (6 - 16)	2007
Germany	7.9			5.9 (0.7-31.9)	2007	3,226.9			8.1 (0.35-22.5)	2007
Greece	6.4	5.0 -	7.5		2006	1,820.0	1,130.0 -	2,510.0		2006
Hungary	12.7	10.3 -	15.3	2 (0.2 - 9)	2007	2,590.3				2006
Iceland	33.5				2007					
Ireland	9.6	8.2 -	13.7		2007	7,878.9	6,166.1 -	9,591.7		2007
Italy	12.2	11.1 -	13.3		2007	2,545.8	2,064.7 -	3,027.0		2007
Latvia	19.6	13.3 -	22.7		2007	3,984.2				2006
Liechtenstein	8.4	6.7 -	10.0		2007					
Lithuania	11.5	5.9 -	15.9		2007	3,899.9	3,170.3 -	4,629.6		2006
Luxembourg	10.3			8.5 (2.2-18.2)	2007	5,032.1				2005
Malta	11.1	9.4 -	20.2	9.1 (6.7-10.6)	2007	3,671.6	3,511.9 -	3,831.2	9.1 (6.7-10.6)	2007
Monaco	2.5				2005					
Netherlands	8.6				2007	2,603.5				2007
Norway	27.4	20.6 -	34.3		2007	3,905.2	2,329.4 -	5,481.0		2007
Poland	8.8	5.0 -	16.3		2006	4,770.0	1,630.0 -	9,910.0		2006
Portugal	2.5				2006	2,007.4	1,288.0 -	2,726.8	6.6 (0.1-27.5)	2007
Slovakia	14.7	9.8 -	19.5	3.0 - 29.0	2005	4,071.1	3,256.9 -	4,885.4		2005
Slovenia	13.7				2007	4,932.9				2007
Spain	5.4				2006	1,899.2				2007
Sweden	10.0	5.2 -	14.8		2007	4,447.1	2,964.7 -	5,929.4		2007
Switzerland	8.4	3.3 -	12.6	10.6 (2 - 17)	2007	4,602.5	1,673.6 -	8,368.2	10.6 (2 - 17)	2007
United Kingdom	6.0	3.0 -	14.1	1.0 - 6.0	2007	1,760.6	1,207.2 -	3,621.7		2007
Oceania										
Australia	37.7	33.5 -	41.9		2007					
New Zealand	36.7	29.3 -	44.0		2007					

3.4.4 Amphetamine-type stimulants: Wholesale, street prices and purity levels

AMPHETAMINE

Retail and wholesale prices and purity levels:
breakdown by drug, region and country or territory
(prices expressed in US$ or converted equivalent, and purity levels in percentage)

	RETAIL PRICE (per *)						WHOLESALE PRICE (per **)					
Region / country or territory	Typical	Range	Purity	Year			Typical	Range	Purity	Year		
Africa												
East Africa												
Kenya	2.4	1.5 - 2.7		2007								
Americas												
South America												
Chile	10.0	6.0 - 13.0		2006								
Asia												
Near and Middle East /South-West Asia												
Bahrain	2.7	2.1 - 3.9		2005	T							
Iran (Islamic Republic o	9.7			2005	D		3,667.0			2005		
Jordan	2.9	2.1 - 3.6		2007	T	TD	428.6	357.1 - 571.4		2007		
Oman	26.0		70.0	2005			25,947.7			2005		
Qatar												
Saudi Arabia	4.8	6.7		2008	T							
Syrian Arab Republic	8.0	6.0 - 12.0	25.0 - 45.0	2007	D	TD	9,000.0	7,000.0 - 13,000.0	40.0 - 60.0	2007		
East and South-East Asia												
Indonesia	2.0	1.8 - 2.3		2005								
Malaysia							2,160.0			2006		
Myanmar							2,160.0			2006		
Thailand	79.6	72.4 - 86.9	90.0 - 99.0	2007			31,850.0	25,480.0 - 38,220.0		2006		
South Asia												
Maldives	76.9			2006			54,340.2	38,814.5 - 77,628.9		2005		
Central Asia and Transcaucasia												
Kazakhstan	62.5	42.0 - 83.0		2007								
Europe												
Eastern Europe												
Belarus	30.0	20.0 - 40.0		2007			3,000.0	2,000.0 - 5,000.0		2007		
Moldova R.	37.6	31.4 - 43.9		2006			43,910.0	25,090.0 - 56,460.0		2006		
Russian Federation	90.7	17.6 - 274.3		2007			47,041.7	6,857.4 - 172,413.8		2007		
Ukraine	30.0	20.0 - 40.0		2007			8,000.0	6,000.0 - 10,000.0		2007		
Southeast Europe												
Bosnia and Herzegovina	7.0	5.6 - 7.7		2007			4,204.6	3,503.9 - 4,905.4		2007		
Bulgaria	19.3	17.5 - 21.0	10 (0.2 - 68)	2007			20547.945		6.0 - 22.0	2007		
Croatia	16.8	14.9 - 18.6		2007			10,255.5	8,390.8 - 13,052.4		2007		
Romania	13.7			2007			6,849.3			2007		
Serbia	27.4	20.5 - 34.2	50.0 - 80.0	2007			27,397.3	20,547.9 - 34,246.6	60.0 - 90.0	2007		
Turkey	4.1	2.7 - 5.5	-	2007	T							
West and Central Europe												
Austria	27.4	20.5 - 34.2	0.6 - 60.0	2007			11,643.8	6,849.3 - 16,438.4	0.6 - 63.6	2007		
Belgium	14.4	4.1 - 34.2		2007			1,027.4	684.9 - 1,369.9		2007		
Cyprus	17.0			2004			7,416.5			2004		
Czech Republic	49.3	24.7 - 75.3	4.4 - 25.0	2007			35,027.4	25,013.7 - 50,041.1		2007		

AMPHETAMINE

Retail and wholesale prices and purity levels:
breakdown by drug, region and country or territory
(prices expressed in US$ or converted equivalent, and purity levels in percentage)

	RETAIL PRICE (per *)						WHOLESALE PRICE (per **)				
Region / country or territory	Typical	Range	Purity	Year			Typical	Range	Purity	Year	
Denmark	36.8	27.6 - 46.0		2007			9,192.9	5,515.7 - 12,870.0		2007	
Estonia	21.9	17.5 - 26.3		2007			3,065.1			2007	
Finland	27.4	20.5 - 34.2		2007			7,876.7	3,424.7 - 12,328.8	30 (0.1 - 99)	2007	
France	18.5	9.6 - 27.4		2007		TD	18,493.2	9,589.0 27,397.3		2007	
Germany	17.3		0.1 - 76.0	2007			5,979.5		0.7 - 56.7	2007	
Greece	16.4	13.4 - 19.5	7.5	2007			3,385.0	3,010.0 - 3,760.0		2006	
Hungary	14.0	11.4 - 16.3	1.0 - 45.0	2006			5,893.9			2006	
Iceland	74.0			2007							
Ireland	20.5	13.7 - 20.5		2007			20,547.9	13,698.6 - 20,547.9		2007	
Italy	24.0	23.0 - 24.9		2007			6,621.0	6,392.6 - 6,849.3		2007	
Latvia	17.6	7.8 - 27.4	2.0 - 56.0	2007			6,555.8	5,283.8 - 7,827.8		2007	
Liechtenstein	10.0	7.5 - 11.7		2007						2007	
Lithuania	11.9	3.6 - 15.9	0.1 - 70.0	2007			2,779.5	1,984.9 - 4,367.1	0.1 - 70.0	2007	
Luxembourg	6.8		2.7 - 33.3	2007	D					2007	
Malta	95.8	95.8 - 95.8		2007						2007	
Netherlands	12.1			2007			1,141.1	1,095.9 - 4,109.6		2007	
Norway	85.6	34.2 - 137.0	10.0 - 70.0	2007			10,958.9	8,219.2 - 13,698.6	10.0 - 70.0	2007	
Poland	19.9	5.5 - 34.2	10.0 - 80.0	2007			2,824.7	1,541.1 - 4,109.6	60.0 - 90.0	2007	
Portugal	3.1			2006	D	TD	1,863.1			2006	
Slovenia	5.5			2007							
Spain	42.2			2007			24,230.1			2007	
	6.0			2006	D						
Sweden	24.1	18.5 - 29.6	10.0 - 90.0	2007			8,523.6	5,188.3 - 11,858.9	10.0 - 90.0	2007	
Switzerland	25.1	5.0 - 83.7		2007			6,276.2			2007	
United Kingdom	20.1	10.1 - 40.2	1.0 - 76.0	2007			3,722.3	1,609.7 - 6,639.8	4.0 - 73.0	2007	
Oceania											
Australia	209.5	31.0 - 387.9	0.4 - 58.4	2007			5,042.7	3,879.0 - 6,206.4	0.4 - 21.8	2007	
New Zealand	220.1			2007							

(*) in Gram or otherwise as indicated
(**) in Kilogram or otherwise as indicated
D : Doses unit
T : Tablets unit
TD: Thousand of doses
TT: Thousand of tablets

METHAMPHETAMINE
Retail and wholesale prices and purity levels: breakdown by drug, region and country or territory

Region / country or territory	RETAIL PRICE (*) Typical	Range		Purity		Year		WHOLESALE PRICE (**) Typical	Range		Purity		Year
Africa													
East Africa													
Kenya													
Southern Africa													
South Africa	48.8					2006							
Americas													
Caribbean													
Bahamas													
North America													
Canada	100.0	75.5	141.5	3.0	100.0	2007		22,086.5	20,676.7	23,496.2	2.0	100.0	2007
United States	127.5	5.0	250.0	16.0	74.0	2007		65,650.0	6,500.0	124,800.0	37.0	99.0	2007
Asia													
East and South-East Asia													
Brunei Darussalam	476.0					2007		71,856.3	63,872.3	79,840.3			2007
	18.8					2006	T						
Cambodia	1.6	1.0	5.0			2005	T						
China	6.0	2.4	9.7	20.0		2004	T	6,650.0	6,000.0	12,000.0			2005
China (Hong Kong SAR)	56.4	43.6	65.6	91.0	99.0	2007		23,987.0	20,205.3	32,071.8			2007
Indonesia	93.6	77.1	110.1			2007		137,589.4	110,071.6	165,107.3			2007
	10.0	9.5	11.6			2005	T						
Japan	500.0	85.0	679.9			2007		88,382.8	59,488.4	118,976.8			2007
Laos	1.0	0.9	1.1			2005	T	4,000.0	3,000.0	5,000.0	27.0		2004
Macau SAR, China	18.0	12.0	25.0			2005							
Malaysia	5.3					2005	T	40,210.0					2006
Myanmar	3.9	1.9	1.0			2007		15,600.0	7,200.0	24,000.0			2006
	2.0	1.8	2.2			2005	T						
Philippines	119.3	108.4	130.1			2007							
Republic of Korea	705.9	217.2	1194.6			2007		14,118.2			25.6	98.5	2007
Singapore	166.7					2007		119,760.5	113,107.1	126,413.8			2007
	6.3					2006	T						
Thailand	83.3	72.0	94.6			2006							
	8.7	7.2	10.1	20.0	30.0	2007	T	TT 1,880.0	1,450.0	2,320.0	20.0	25.0	2007
Central Asia and Transcaucasia													
Kazakhstan	62.5	42.0	83.0			2007							
Near and Middle East /South-West Asia													
Bahrain	424.3	397.8	450.8			2005		39,777.3	26,518.2	53,036.3			2005
Oman	17.9	12.8	25.6			2007							
Saudi Arabia	199.7	-	266.2			2008							
South Asia													
Bangladesh	10.0					2007	T						
Europe													
East Europe													
Belarus	23.0	20.0	25.0			2007		3,000.0	2,000.0	5,000.0			2007
Moldova R.	5.0	3.8	6.3			2006		6,270.0	5,020.0	7,530.0			2006
Russian Federation	61.3	48.0	66.6			2007		40,833.3	28,796.4	47,994.0			2007
Ukraine								6,380.9	2,991.0	9,970.1			2007
West and Central Europe													
Austria	27.4	20.5	34.2	5.0	94.0	2007		9,589.0	5,479.5	13,698.6	0.5	94.0	2007
Czech Republic	56.2	24.7	200.0	14.0	85.6	2007		40,082.2	25,013.7	75,054.8	60.1	73.0	2007
Finland	27.4	20.5	34.2			2007		7,876.7	3,424.7	12,328.8	19 (6 - 52)		2007
Latvia	17.6	7.8	27.4	14.0	84.0	2007		6,066.5	5,283.8	6,849.3			2007
Liechtenstein	19.6	15.7	23.5			2007							
Lithuania	11.1	9.1	15.9	1.0	68.0	2007		2,510.0					2006
Netherlands							TD	950.0					2007
Norway	85.6	34.2	137.0	10.0	80.0	2007		10,958.9	8,219.2	13,698.6	10.0	80.0	2007
Slovakia	137.0	109.6	205.5	4.0	89.0	2007		71,232.9	65,753.4	82,191.8	40.0	70.0	2007

ECSTASY

Retail and wholesale prices and purity levels:
breakdown by drug, region and country or territory
(prices expressed in US$ or converted equivalent, and purity levels in percentage)

	RETAIL PRICE (per tablet)				WHOLESALE PRICE (per thousand tablets)			
Region / country or territory	Typical	Range	Purity	Year	Typical	Range	Purity	Year
Africa								
North Africa								
Egypt	15.1	12.4 - 17.8		2007	10,659.3	8,882.7 - 12,435.8		2007
Southern Africa								
Namibia	17.0	8.5 - 17.0		2007	18,165.3			2004
South Africa	7.8			2006				
Zimbabwe	3.0	2.0 - 4.0		2006				
West and Central Africa								
Ghana	6.0	5.0 - 7.0		2004				
Americas								
Caribbean								
Bahamas					6,877.6	3,930.0 - 9,825.1		2007
Bermuda	64.5	49.6 - 79.4		2006				
Dominican R.	19.0			2006	16,000.0			2005
Jamaica	14.5	11.6 - 21.8		2007	20,000.0	15,000.0 - 25,000.0		2004
Central America								
Costa Rica	19.4	5.8 - 19.4		2007				
Guatemala	7.9		20.0 - 30.0	2006	6,550.0		25.0 - 35.0	2006
North America								
Canada	20.7	9.4 - 47.0	6.0 - 97.0	2007	5,135.3	1,174.8 - 12,218.0	6.0 - 97.0	2007
United States	25.0	20.0 - 30.0		2004	10,000.0	5,000.0 - 13,000.0		2004
South America								
Argentina					4,666.0			2004
Brazil	12.0	7.0 - 25.0		2005	15,000.0	10,000.0 - 30,000.0		2004
Chile	25.0	20.0 - 30.0		2007	17,241.4			2005
Colombia	22.6			2005				
Ecuador	20.0	20.0 - 30.0		2007	20,000.0	20,000.0 - 30,000.0		2007
Uruguay	3.5	3.0 - 4.0		2007	20,000.0	15,000.0 - 25,000.0		2004
Venezuela	9.4	8.1 - 11.6	100.0	2006				
Asia								
East and South-East Asia								
Brunei Darussalam	114.7	113.1 - 116.4		2007	99,778.3	99,778.3 - 99,778.3		2007
Cambodia	5.0	5.0 - 15.0		2005				
China	4.5	2.5 - 12.0		2005				
Hong Kong SAR, China	10.7	5.9 - 14.2		2005	2,822.3	1,282.9 - 3,078.9		2007
Indonesia	9.9	8.8 - 11.0		2007				
Japan	38.8	25.9 - 51.7		2006				
Republic of Korea	38.0	32.6 - 43.4		2007	2,172.0			2007
Macau SAR, China	22.0	18.0 - 31.0		2005				
Malaysia	17.4	13.4 - 21.5		2006				
Myanmar	23.3			2007				
Philippines	22.8			2006	21,758.8			2005
Singapore	21.6	20.0 - 23.3	37.4	2007	10,975.6	9,977.8 - 11,973.4		2007
Thailand	40.5	23.2 - 57.9		2007	8,686.3		39.6 - 88.9	2007
Vietnam	32.5	20.0 - 45.0		2005				
Central Asia and Transcaucasia								
Kazakhstan	54.0	42.0 - 66.0		2007	54,000.0	42,000.0 - 66,000.00		2007
Near and Middle East /South-West Asia								
Iran (Islamic Republic of)	6.2			2005				
Israel	17.0	15.0 - 30.0		2007	7,400.0	5,900.0 - 8,900.0		2007
Europe								
East Europe								
Belarus	45.0	30.0 - 60.0		2007	4,000.0	3,000.0 - 6,000.0		2007
Moldova R.	12.6	3.8 - 31.4		2006	12,550.0	3,760.0 - 31,370.0		2006
Russian Federation	44.8	13.5 - 114.6	18.0 - 40.0	2007	30,625.0	20,416.7 - 40,833.3		2007
Ukraine								
Southeast Europe								

ECSTASY

Retail and wholesale prices and purity levels:
breakdown by drug, region and country or territory
(prices expressed in US$ or converted equivalent, and purity levels in percentage)

	RETAIL PRICE (per tablet)				WHOLESALE PRICE (per thousand tablets)			
Region / country or territory	Typical	Range	Purity	Year	Typical	Range	Purity	Year
Bosnia and Herzegovina	13.7	6.9 - 41.1		2007	2,740.48			2007
Bulgaria	10.5	3.5 - 17.5	9.0 - 61.0	2007				
Croatia	7.5	5.6 - 9.3		2007	6,076.4	3,340.0 - 6,690.0		2006
FYR of Macedonia	11.3	10.1 - 12.6		2005	5,020.0	2,516.1 - 6,290.2		2006
Romania	16.4	9.6 - 16.4		2007	5,032.1	3,774.1 - 5,032.1		2006
Serbia	6.2	4.1 - 11.0		2007				
Turkey	8.2	6.9 - 9.6	14.5 - 33.8	2007	3,425.6	2,740.5 - 4,110.7		2007
West and Central Europe								
Andorra	6.3	3.8 - 7.6		2005				
Austria	10.3	6.9 - 13.7	2.2 - 100.0	2007	5,481.0	4,110.7 - 6,851.2	1.4 - 100.0	2007
Belgium	5.5	1.4 - 13.7		2007	1,428.4			2006
Cyprus	17.8	12.3 - 23.3		2007	4,682.1			2007
Czech Republic	11.0	4.1 - 24.7	6.5 - 52.6	2007	5,453.5	1,507.3 - 10,016.4	17.8 - 32.1	2007
Denmark	7.4	4.6 - 12.9		2007	2,757.6	1,838.4 - 5,515.2		2007
Estonia	6.6	3.5 - 9.6		2007	1,751.5			2007
Finland	21.9	16.4 - 27.4		2007	5,589.4	4,968.3 - 6,210.4		2006
France	9.6	6.9 - 12.3		2007	2,201.6	1,258.0 - 3,145.1		2006
Germany	8.4		0.2 - 84.2	2007	2,532.2		6.7 - 48.0	2007
Greece	25.1	18.8 - 31.4		2006				
Hungary	6.6	4.4 - 8.6	5.0 - 40.0	2007	1,510.9			2006
Iceland	34.1			2007				
Ireland	13.7	5.5 - 16.4		2007				
Italy	25.7	82.9 - 28.8		2007	4,453.3	4,110.7 - 4,795.8		2007
Latvia	9.8	5.9 - 13.7	13.0 - 42.0	2007	3,314.4	1,893.9 - 4,734.9		2006
Liechtenstein	12.6	8.4 - 16.7		2007				
Lithuania	4.8	2.4 - 9.9	0.4 - 52.9	2007	1,588.1	794.7 - 3,177.6	0.4 - 52.9	2007
Luxembourg	6.3			2006				
Malta	14.4	11.2 - 23.1	23.4 - 32.5	2007	7,522.6	7,043.0 - 9,290.2	23.4 - 32.5	2007
Netherlands	3.5			2007	4,110.7	3,425.6 - 4,795.8		2007
Norway	48.0		20.0 - 50.0	2007	13,702.4	12,332.1 - 15,072.6	20.0 - 50.0	2007
Poland	6.2	1.4 - 11.0		2007	1,452.5	513.8 - 2,397.9		2007
Portugal	4.4		1.4 - 80.4	2007	1,065.0	750.0 - 1,380.0	1.4 - 80.4	2006
Slovakia	13.7	6.9 - 20.6		2007	5,178.1			2005
Slovenia	6.9			2007	1,887.1			2006
Spain	14.6			2007				
Sweden	14.8	7.4 - 22.2		2007	4,028.8	2,158.3 - 5,755.4		2006
Switzerland	16.7	8.4 - 33.5	23.0 - 52.0	2007				
United Kingdom	6.0	2.0 - 20.1	5.0 - 85.0	2007	1,829.2		58.0 - 79.0	2007
Oceania								
Australia	33.4	11.7 - 50.3	24.4 - 43.0	2007	15,912.9	5,862.6 - 41,876.0	20.4 - 89.5	2007
New Zealand	47.7	33.0 - 62.3		2007				

3.5 Consumption

3.5.1 Annual Prevalence

3.5.1.1 Opiates

OPIATES

Annual Prevalence of Use as a percentage of the population aged 15-64 (unless otherwise indicated)

Country or Territory	Prevalence	Ages	Year	Source (original)	Method	UNODC Adjusted
AFRICA						
East Africa						
Burundi				No recent, reliable estimate located		
Comoros				No recent, reliable estimate located		
Djibouti				No recent, reliable estimate located		
Eritrea				No recent, reliable estimate located		
Ethiopia				No recent, reliable estimate located		
Kenya	0.16 - 1.30	15 - 64	2004	Reference Group to the UN on HIV and IDU	I	c, i
Madagascar				No recent, reliable estimate located		
Mauritius	1.95	15 - 54	2007	ARQ	I	
Rwanda	0.14	15 - 64	2004	Cure Research estimate		
Seychelles				No recent, reliable estimate located		
Somalia	0.16	15 - 64	2004	Cure Research estimate		
Tanzania, U.R.	0.02	15 - 64	1998	UNODC Estimate		
Uganda	0.06	15 - 64	2004	Cure Research estimate		
North Africa						
Algeria	0.12	15 - 64	2004	UNODC Estimate		
Egypt	0.14 - 0.73	15 - 64	2006	Govt; Academic Research	HHS, SS	a, b, d
Libya	0.14	15 - 64	2004	UNODC Estimate		
Morocco	0.02	15 - 64	2003	ARQ		
Sudan				No recent, reliable estimate located		
Tunisia	0.09	15 - 64	2006	UNODC Estimate		
Southern Africa						
Angola	0.25	15 - 64	2001	UNODC Estimate		
Botswana				No recent, reliable estimate located		
Lesotho				No recent, reliable estimate located		
Malawi				No recent, reliable estimate located		
Mozambique				No recent, reliable estimate located		
Namibia				No recent, reliable estimate located		
South Africa	0.35 - 0.39	15 - 64	2005	ARQ/ Reference Group to the UN on HIV and IDU	SS, I	d,e,g,i
Swaziland	0.17	15 - 64	2004	Cure Research estimate		
Zambia	0.37	15 - 64	2003	UNODC Estimate		
Zimbabwe	0.04	15 - 64	2004	Cure Research estimate		
West and Central Africa						
Benin				No recent, reliable estimate located		
Burkina Faso				No recent, reliable estimate located		
Cameroon				No recent, reliable estimate located		
Cape Verde	0.18	15 - 64	2004	UNODC Estimate		
Central African Rep.	0.05	15 - 64	2004	Cure Research estimate		
Chad	0.22	15 - 64	2004	Cure Research estimate		
Congo, DRC	0.17	15 - 64	2004	Cure Research estimate		
Congo, Rep.	0.13	15 - 64	2004	Cure Research estimate		
Côte d'Ivoire				No recent, reliable estimate located		
Equatorial Guinea				No recent, reliable estimate located		
Gabon				No recent, reliable estimate located		
Gambia				No recent, reliable estimate located		
Ghana	0.14	15 - 65	2004	Cure Research estimate		
Guinea				No recent, reliable estimate located		
Guinea-Bissau				No recent, reliable estimate located		
Liberia	0.17	15 - 64	2004	Cure Research estimate		
Mali				No recent, reliable estimate located		
Mauritania				No recent, reliable estimate located		
Niger	0.20	15 - 64	2004	Reference Group to the UN on HIV and IDU	I	

Method: HHS=Household survey, SS=School survey, A=Adjusted from other sources, I=Indirect estimates, R=Registry. * approximate estimates

UNODC Adjustments: a=adjusted for age (15-64), b=population-based/household-type study/survey, c=adjusted from a limited geographic population-based study/survey, d=adjusted from school/youth survey, e=adjusted from lifetime/monthly prevalence adjusted to annual prevalence, f=adjusted from specialized population surveys (including Rapid Assessments), g=adjusted from treatment data, h=adjusted from drug registries, i=adjusted from HIV, problematic drug users (only for heroin), j=lifetime prevalence reported, z=figures may also include other non-ATS stimulants

The 'Method' and 'UNODC Adj.' columns have been completed only for more recent data included in the present issue of the World Drug Report.

OPIATES

Annual Prevalence of Use as a percentage of the population aged 15-64 (unless otherwise indicated)

Country or Territory	Prevalence	Ages	Year	Source (original)	Method	UNODC Adjusted
Nigeria	0.57	15 - 64	1998	ARQ	HHS	
Sao Tome & Principe				No recent, reliable estimate located		
Senegal	0.08	15 - 64	2006	UNODC Estimate	SS	a, d, e
Sierra Leone	0.17	15 - 64	2004	Cure Research estimate		
St. Helena				No recent, reliable estimate located		
Togo				No recent, reliable estimate located		
AMERICAS						
Caribbean						
Anguilla				No recent, reliable estimate located		
Antigua & Barbuda	0.05	15 - 64	2000	ARQ		
Bahamas	0.22	15 - 64	2003	UNODC Estimate		
Barbados	0.13	15 - 64	2006	UNODC Estimate		
Bermuda				No recent, reliable estimate located		
British Virgin Isl.				No recent, reliable estimate located		
Cayman Isl.				No recent, reliable estimate located		
Cuba				No recent, reliable estimate located		
Dominica				No recent, reliable estimate located		
Dominican Rep.	0.14	15 - 64	2001	UNODC Estimate		
Grenada				No recent, reliable estimate located		
Haiti	0.19 - 0.22	15 - 64	2006	ARQ	SS	a, d, e
Jamaica	0.10	12 - 55	2001	UNODC Estimate		
Montserrat				No recent, reliable estimate located		
Netherlands Antilles				No recent, reliable estimate located		
Puerto Rico	1.15	15 - 64	2002	Reference Group to the UN on HIV and IDU	I	
St. Kitts & Nevis				No recent, reliable estimate located		
St. Lucia				No recent, reliable estimate located		
St. Vincent & Grenadines				No recent, reliable estimate located		
Trinidad & Tobago	0.09	15 - 64	2002	UNODC Estimate		
Turks & Caicos Isl.	0.07	15 - 64	2002	UNODC Estimate		
Central America						
Belize				No recent, reliable estimate located		
Costa Rica				No recent, reliable estimate located		
El Salvador	0.14	12 - 65	2005	UNODC Estimate	HHS	e
Guatemala	0.04	15 - 64	2005	ARQ		
Honduras	0.15	12 - 35	2005	UNODC Estimate	HHS	e
Nicaragua				No recent, reliable estimate located		
Panama				No recent, reliable estimate located		
North America						
Canada	0.21 - 0.42	15 - 64	2003	Academic Research	I	
Mexico	0.10	15 - 64	2002	CONADIC, ENA 2002	HHS	
USA	0.58	15 - 64	2000	ONDCP	I	
South America						
Argentina	0.16	15 - 64	2005	UNODC Estimate		e
Bolivia	0.30	15 - 64	2007	ARQ	HHS	e
Brazil	0.50	12 - 65	2005	ARQ	HHS	e
Chile	0.20 - 0.38	15 - 64	2006	ARQ/ Reference Group to the UN on HIV and IDU	HHS	e
Colombia	0.10	15 - 64	2004	UNODC Estimate		
Ecuador	0.12	15 - 64	2005	UNODC Estimate		e
Falkland Isl. (Malvinas)				No recent, reliable estimate located		
Guyana	0.25	15 - 64	2002	UNODC Estimate		
Paraguay	0.03	12 - 65	2003	ARQ	HHS	e
Peru	0.18	12 - 64	2005	UNODC Estimate		
Suriname	0.08	15 - 64	2002	UNODC Estimate		e

Method: HHS=Household survey, SS=School survey, A=Adjusted from other sources, I=Indirect estimates, R=Registry. * approximate estimates

UNODC Adjustments: a=adjusted for age (15-64), b=population-based/household-type study/survey, c=adjusted from a limited geographic population-based study/survey, d=adjusted from school/youth survey, e=adjusted from lifetime/monthly prevalence adjusted to annual prevalence, f=adjusted from specialized population surveys (including Rapid Assessments), g=adjusted from treatment data, h=adjusted from drug registries, i=adjusted from HIV, problematic drug users (only for heroin), j=lifetime prevalence reported, z=figures may also include other non-ATS stimulants

The 'Method' and 'UNODC Adj.' columns have been completed only for more recent data included in the present issue of the World Drug Report.

OPIATES

Annual Prevalence of Use as a percentage of the population aged 15-64 (unless otherwise indicated)

Country or Territory	Prevalence	Ages	Year	Source (original)	Method	UNODC Adjusted
Uruguay	0.08	12 - 65	2006	ARQ	HHS	e
Venezuela	0.03 - 0.16	15 - 64	2003	ARQ	SS	a, d, e
ASIA						
Central Asia and Transcaucasian countries						
Armenia	0.30	15 - 64	2005	ARQ	HHS	
Azerbaijan	0.27	15 - 64	2006	UNODC Estimate		
Georgia	0.58	15 - 64	2006	UNODC Estimate		
Kazakhstan	1.00	15 - 64	2006	UNODC (GAP survey)		i
Kyrgyzstan	0.80	15 - 64	2006	UNODC (GAP survey)		i
Tajikistan	0.54	15 - 64	2006	UNODC (GAP survey)		i
Turkmenistan	0.32	15 - 64	2007	ARQ		
Uzbekistan	0.80	15 - 64	2006	UNODC (GAP survey)		i
East and South-East Asia						
Brunei Darussalam	0.01	15 - 64	1998			
Cambodia	0.01 - 0.09	15 - 64	2004	INCSR/ Reference Group to the UN on HIV and IDU	I	
China	0.19 - 0.31	15 - 64	2005	Academic research/ Reference Group to the UN on HIV and IDU	I	
Hong Kong SAR, China	0.20	15 - 64	2006	ARQ		
Indonesia	0.16	15 - 64	2005	ARQ		
Japan				No recent, reliable estimate located		
Korea, DPR				No recent, reliable estimate located		
Korea, Rep.	0.06 - 0.10	15 - 64	2004	ARQ	HHS	a,b,e
Lao PDR	0.37	15 - 64	2008	UNODC (ICMP)	HHS	a, c
Macau SAR, China	1.12	15 - 64	2003	ARQ		
Malaysia	1.11 - 1.56	15 - 64	2002	Reference Group to the UN on HIV and IDU	I	
Mongolia				No recent, reliable estimate located		
Myanmar	0.60	15 - 64	2008	UNODC (ICMP)	HHS	a,c
Philippines	0.05	15 - 64	2005	Reference Group to the UN on HIV and IDU		
Singapore	<0.01	15 - 64	2006	ARQ	R	
Taiwan, Prov. of China	0.20	15 - 64	2005	Government source		
Thailand	0.20	15 - 64	2007	ARQ	HHS	
Timor-Leste				No recent, reliable estimate located		
Viet Nam	0.25 - 0.28	15 - 64	2005	INCSR/ Reference Group to the UN on HIV and IDU		
Near and Middle East /South-West Asia						
Afghanistan	1.40	15 - 64	2005	UNODC Estimate		
Bahrain	0.31	15 - 64	1998	ARQ		
Iran	1.50 - 3.20	15 - 64	1999	UNODC Estimate		
Iraq				No recent, reliable estimate located		
Israel	0.50	18 - 40	2005	ARQ		
Jordan	0.17	15 - 64	2001	UNODC Estimate		
Kuwait	0.17	15 - 64	2004	UNODC Estimate		
Lebanon	0.20	15 - 64	2003	ARQ		
Oman	0.09	15 - 64	1999	UNODC Estimate		
Pakistan	0.70	15 - 64	2006	UNODC (GAP survey)		
Palestinian Territory				No recent, reliable estimate located		
Qatar				No recent, reliable estimate located		
Saudi Arabia	0.06	15 - 64	2006	UNODC Estimate		
Syria	0.02	15 - 64	2005	UNODC Estimate		
United Arab Emirates	0.02	15 - 64	2004	UNODC Estimate		
Yemen				No recent, reliable estimate located		
South Asia						
Bangladesh	0.40	15 - 64	2003	ARQ	HHS	a, b, e

Method: HHS=Household survey, SS=School survey, A=Adjusted from other sources, I=Indirect estimates, R=Registry. * approximate estimates

UNODC Adjustments: a=adjusted for age (15-64), b=population-based/household-type study/survey, c=adjusted from a limited geographic population-based study/survey, d=adjusted from school/youth survey, e=adjusted from lifetime/monthly prevalence adjusted to annual prevalence, f=adjusted from specialized population surveys (including Rapid Assessments), g=adjusted from treatment data, h=adjusted from drug registries, i=adjusted from HIV, problematic drug users (only for heroin), j=lifetime prevalence reported, z=figures may also include other non-ATS stimulants

The 'Method' and 'UNODC Adj.' columns have been completed only for more recent data included in the present issue of the World Drug Report.

OPIATES

Annual Prevalence of Use as a percentage of the population aged 15-64 (unless otherwise indicated)

Country or Territory	Prevalence	Ages	Year	Source (original)	Method	UNODC Adjusted
Bhutan				No recent, reliable estimate located		
India	0.43	15 - 65	2001	ARQ	HHS	a, b, e
Maldives				No recent, reliable estimate located		
Nepal	0.33 - 0.57	15 - 64	2003	ARQ/ Reference Group to the UN on HIV and IDU	I	g, i
Sri Lanka	0.11	15 - 64	2006	ARQ		
EUROPE						
East Europe						
Belarus	0.08 - 0.74	15 - 64	2007	UNODC Estimate	R	h,g
Moldova, Rep.	0.10	15 - 64	2007	ARQ		
Russian Federation*	1.64	15 - 64	2007	ARQ		g
Ukraine	1.00 - 1.31	15 - 64	2006	Reference Group to the UN on HIV and IDU	I	
Southeast Europe						
Albania	0.45	15 - 64	2007	ARQ	R	h,g
Bosnia & Herzegovina	0.30	15 - 64	2005	Reference Group to the UN on HIV and IDU	I	
Bulgaria	0.38 - 0.61	15 - 64	2007	ARQ	I	
Croatia	0.36	15 - 64	2006	ARQ	I	
Macedonia, FYR	0.50	15 - 64	2005	ARQ		
Montenegro				No recent, reliable estimate located		
Romania	0.11 - 0.21	15 - 64	2004	ARQ	I	
Serbia				No recent, reliable estimate located		
Turkey	0.05	15 - 64	2003	Government source		
West & Central Europe						
Andorra				No recent, reliable estimate located		
Austria	0.43	15 - 64	2007	ARQ	I	
Belgium				No recent, reliable estimate located		
Cyprus	0.09 - 0.13	15 - 65	2006	ARQ	I	
Czech Rep.	0.13	15 - 64	2006	ARQ	I	g
Denmark	0.60	15 - 64	2005	ARQ	I	
England & Wales	0.93 - 1.00	15 - 64	2005	ARQ	I	
Estonia	0.89 - 3.79	15 - 64	2004	ARQ	I	
Finland	0.23	15 - 64	2005	UNODC Estimate	I	
France	0.42 - 0.51	15 - 64	2007	Government source	I	
Germany	0.14 - 0.29	18 - 64	2006	EMCDDA	I	
Greece	0.28	15 - 64	2004	ARQ		
Hungary	0.28 - 0.42	18 - 54	2006	ARQ	I	
Iceland	0.40	15 - 64	2005	ARQ		
Ireland	0.50	15 - 64	2001	ARQ	I	
Italy	0.79	15 - 64	2005	ARQ		
Latvia	0.80	15 - 64	2007	ARQ	HHS	
Liechtenstein	0.20	15 - 64	2005	ARQ	SS	
Lithuania	0.10	15 - 64	2006	Government source	I	
Luxembourg	0.93	15 - 64	2000	EMCDDA	I	
Malta	0.54 - 0.59	18 - 65	2007	ARQ	I	
Monaco				No recent, reliable estimate located		
Netherlands	0.31	15 - 64	2005	ARQ		
Northern Ireland	0.10	16 - 59	2006	Government source		
Norway	0.33	15 - 64	2005	EMCDDA		
Poland	0.09 - 0.11	15 - 64	2005	ARQ	I	
Portugal	0.43 - 0.50	15 - 64	2005	ARQ	I	
San Marino				No recent, reliable estimate located		
Scotland	1.54 - 1.68	15 - 64	2004	EMCDDA	I	
Slovakia	0.33 - 0.82	15 - 64	2006	ARQ	I	
Slovenia	0.53	15 - 64	2001	EMCDDA		

Method: HHS=Household survey, SS=School survey, A=Adjusted from other sources, I=Indirect estimates, R=Registry. * approximate estimates

UNODC Adjustments: a=adjusted for age (15-64), b=population-based/household-type study/survey, c=adjusted from a limited geographic population-based study/survey, d=adjusted from school/youth survey, e=adjusted from lifetime/monthly prevalence adjusted to annual prevalence, f=adjusted from specialized population surveys (including Rapid Assessments), g=adjusted from treatment data, h=adjusted from drug registries, i=adjusted from HIV, problematic drug users (only for heroin), j=lifetime prevalence reported, z=figures may also include other non-ATS stimulants

The 'Method' and 'UNODC Adj.' columns have been completed only for more recent data included in the present issue of the World Drug Report.

OPIATES

Annual Prevalence of Use as a percentage of the population aged 15-64 (unless otherwise indicated)

Country or Territory	Prevalence	Ages	Year	Source (original)	Method	UNODC Adjusted
Spain	0.20 - 0.40	15 - 64	2002	Government source	I	
Sweden	0.17	15 - 64	2004	ARQ	I	
Switzerland	0.51 - 0.78	15 - 64	2000	Government source	I	
OCEANIA						
Oceania						
Australia	0.40	15 - 64	2007	ARQ	HHS	a,b
Christmas Isl.				No recent, reliable estimate located		
Cocos (Keeling) Isl.				No recent, reliable estimate located		
Cook Isl.				No recent, reliable estimate located		
Fiji				No recent, reliable estimate located		
French Polynesia				No recent, reliable estimate located		
Kiribati				No recent, reliable estimate located		
Micronesia				No recent, reliable estimate located		
Nauru				No recent, reliable estimate located		
New Caledonia				No recent, reliable estimate located		
New Zealand	0.42	15 - 45	2006	ARQ	HHS	a,b
Norfolk Isl.				No recent, reliable estimate located		
Papua New Guinea				No recent, reliable estimate located		
Samoa				No recent, reliable estimate located		
Solomon Isl.				No recent, reliable estimate located		
Tonga				No recent, reliable estimate located		
Tuvalu				No recent, reliable estimate located		
Vanuatu				No recent, reliable estimate located		

Method: HHS=Household survey, SS=School survey, A=Adjusted from other sources, I=Indirect estimates, R=Registry. * approximate estimates

UNODC Adjustments: a=adjusted for age (15-64), b=population-based/household-type study/survey, c=adjusted from a limited geographic population-based study/survey, d=adjusted from school/youth survey, e=adjusted from lifetime/monthly prevalence adjusted to annual prevalence, f=adjusted from specialized population surveys (including Rapid Assessments), g=adjusted from treatment data, h=adjusted from drug registries, i=adjusted from HIV, problematic drug users (only for heroin), j=lifetime prevalence reported, z=figures may also include other non-ATS stimulants

The 'Method' and 'UNODC Adj.' columns have been completed only for more recent data included in the present issue of the World Drug Report.

3.5.1.2 Cocaine

COCAINE

Annual Prevalence of Use as a percentage of the population aged 15-64 (unless otherwise indicated)

Country or Territory	Prevalence	Ages	Year	Source (original)	Method	UNODC Adjusted
AFRICA						
East Africa						
Burundi				No recent, reliable estimate located		
Comoros				No recent, reliable estimate located		
Djibouti				No recent, reliable estimate located		
Eritrea				No recent, reliable estimate located		
Ethiopia				No recent, reliable estimate located		
Kenya				No recent, reliable estimate located		
Madagascar				No recent, reliable estimate located		
Mauritius				No recent, reliable estimate located		
Rwanda				No recent, reliable estimate located		
Seychelles				No recent, reliable estimate located		
Somalia				No recent, reliable estimate located		
Tanzania, U.R.				No recent, reliable estimate located		
Uganda				No recent, reliable estimate located		
North Africa						
Algeria				No recent, reliable estimate located		
Egypt	<0.1	15 - 64	2006	Govt; Academic Research	HHS, SS	a, b, d
Libya				No recent, reliable estimate located		
Morocco	<0.1	15 - 64	2004	ARQ		
Sudan				No recent, reliable estimate located		
Tunisia				No recent, reliable estimate located		
Southern Africa						
Angola	0.1	15 - 64	1999	UNODC Estimate		e
Botswana				No recent, reliable estimate located		
Lesotho				No recent, reliable estimate located		
Malawi				No recent, reliable estimate located		
Mozambique				No recent, reliable estimate located		
Namibia	0.2	15 - 64	1998	UNODC Estimate		
South Africa	0.7 - 1.2	15 - 64	2006	ARQ	HHS, SS	b, d. e, c
Swaziland				No recent, reliable estimate located		
Zambia	0.2	15 - 64	2000	UNODC Estimate		
Zimbabwe	0.1	15 - 64	2000	UNODC Estimate		
West and Central Africa						
Benin				No recent, reliable estimate located		
Burkina Faso				No recent, reliable estimate located		
Cameroon				No recent, reliable estimate located		
Cape Verde	0.2	15 - 64	2004	UNODC Estimate		d, e
Central African Rep.				No recent, reliable estimate located		
Chad				No recent, reliable estimate located		
Congo, DRC				No recent, reliable estimate located		
Congo, Rep.				No recent, reliable estimate located		
Côte d'Ivoire				No recent, reliable estimate located		
Equatorial Guinea				No recent, reliable estimate located		
Gabon				No recent, reliable estimate located		
Gambia				No recent, reliable estimate located		
Ghana	1.1	15 - 64	1998	UNODC Estimate		
Guinea				No recent, reliable estimate located		
Guinea-Bissau				No recent, reliable estimate located		
Liberia				No recent, reliable estimate located		
Mali				No recent, reliable estimate located		
Mauritania				No recent, reliable estimate located		
Niger				No recent, reliable estimate located		
Nigeria	0.5	15 - 64	1999	UNODC Estimate		

Method: HHS=Household survey, SS=School survey, A=Adjusted from other sources, I=Indirect estimates, R=Registry. * approximate estimates

UNODC Adjustments: a=adjusted for age (15-64), b=population-based/household-type study/survey, c=adjusted from a limited geographic population-based study/survey, d=adjusted from school/youth survey, e=adjusted from lifetime/monthly prevalence adjusted to annual prevalence, f=adjusted from specialized population surveys (including Rapid Assessments), g=adjusted from treatment data, h=adjusted from drug registries, i=adjusted from HIV, problematic drug users (only for heroin), j=lifetime prevalence reported, z=figures may also include other non-ATS stimulants

The 'Method' and 'UNODC Adj.' columns have been completed only for more recent data included in the present issue of the World Drug Report.

COCAINE

Annual Prevalence of Use as a percentage of the population aged 15-64 (unless otherwise indicated)

Country or Territory	Prevalence	Ages	Year	Source (original)	Method	UNODC Adjusted
Sao Tome & Principe				No recent, reliable estimate located		
Senegal				No recent, reliable estimate located		
Sierra Leone				No recent, reliable estimate located		
St. Helena				No recent, reliable estimate located		
Togo				No recent, reliable estimate located		
AMERICAS						
Caribbean						
Anguilla				No recent, reliable estimate located		
Antigua & Barbuda	<0.1	15 - 64	2000	UNODC Estimate		
Bahamas				No recent, reliable estimate located		
Barbados	0.4	15 - 64	2007	CICAD	HHS	b
Bermuda				No recent, reliable estimate located		
British Virgin Isl.				No recent, reliable estimate located		
Cayman Isl.	0.6	15 - 64	2000	UNODC Estimate		
Cuba				No recent, reliable estimate located		
Dominica				No recent, reliable estimate located		
Dominican Rep.	0.9	12 - 70	2000	UNODC Estimate		
Grenada	0.9	15 - 64	2003	UNODC Estimate		
Haiti	0.9	15 - 64	2006	UNODC Estimate		
Jamaica	1.1	15 - 64	2006	UNODC Estimate	SS	a,
Montserrat				No recent, reliable estimate located		
Netherlands Antilles				No recent, reliable estimate located		
Puerto Rico				No recent, reliable estimate located		
St. Kitts & Nevis				No recent, reliable estimate located		
St. Lucia	1.0	15 - 64	2002	UNODC Estimate		
St. Vincent & Grenadines	0.7	15 - 64	2002	UNODC Estimate	SS	
Trinidad & Tobago				No recent, reliable estimate located		
Turks & Caicos Isl.	0.7	15 - 64	2002	UNODC Estimate		
Central America						
Belize	0.9	12 - 65	2005	CICAD	HHS	
Costa Rica	0.4	12 - 70	2006	ARQ	HHS	
El Salvador	0.2 - 0.5	12 - 65	2005	CICAD	HHS	
Guatemala	0.2	15 - 64	2005	ARQ		
Honduras	0.9	12 - 35	2005	ARQ		c
Nicaragua	0.5 - 0.9	12 - 65	2006	CICAD	HHS	
Panama	1.2	12 - 65	2003	Government source	HHS	b
North America						
Canada	2.3	15 - 64	2004	ARQ		a
Mexico	0.8	15 - 64	2006	UNODC Estimate		a, c
USA	2.8	15 - 64	2007	SAMHSA	HHS	
South America						
Argentina	2.6	12 - 65	2006	ARQ	HHS	
Bolivia	0.8	15 - 64	2007	ARQ	HHS	
Brazil	0.7	12 - 65	2005	Government source		
Chile	1.7	15 - 64	2006	ARQ	HHS	
Colombia	0.8	18 - 65	2003	Government source		
Ecuador	0.3	15 - 64	2007	CICAD	HHS	
Falkland Isl. (Malvinas)				No recent, reliable estimate located		
Guyana				No recent, reliable estimate located		
Paraguay	0.3	15 - 64	2004	CICAD	HHS	
Peru	0.3 - 0.6	12 - 64	2006	ARQ	HHS	
Suriname	0.5	15 - 64	2002	UNODC Estimate		d
Uruguay	1.4	12 - 65	2006	ARQ	HHS	
Venezuela	0.6	15 - 64	2005	Government source		

Method: HHS=Household survey, SS=School survey, A=Adjusted from other sources, I=Indirect estimates, R=Registry. * approximate estimates

UNODC Adjustments: a=adjusted for age (15-64), b=population-based/household-type study/survey, c=adjusted from a limited geographic population-based study/survey, d=adjusted from school/youth survey, e=adjusted from lifetime/monthly prevalence adjusted to annual prevalence, f=adjusted from specialized population surveys (including Rapid Assessments), g=adjusted from treatment data, h=adjusted from drug registries, i=adjusted from HIV, problematic drug users (only for heroin), j=lifetime prevalence reported, z=figures may also include other non-ATS stimulants

The 'Method' and 'UNODC Adj.' columns have been completed only for more recent data included in the present issue of the World Drug Report.

COCAINE

Annual Prevalence of Use as a percentage of the population aged 15-64 (unless otherwise indicated)

Country or Territory	Prevalence	Ages	Year	Source (original)	Method	UNODC Adjusted
ASIA						
Central Asia and Transcaucasian countries						
Armenia	0.1	15 - 64	2005	UNODC Estimate	HHS	b
Azerbaijan				No recent, reliable estimate located		
Georgia				No recent, reliable estimate located		
Kazakhstan				No recent, reliable estimate located		
Kyrgyzstan				No recent, reliable estimate located		
Tajikistan				No recent, reliable estimate located		
Turkmenistan				No recent, reliable estimate located		
Uzbekistan				No recent, reliable estimate located		
East and South-East Asia						
Brunei Darussalam				No recent, reliable estimate located		
Cambodia				No recent, reliable estimate located		
China				No recent, reliable estimate located		
Hong Kong SAR, China	<0.1	11 - 99	2003	ARQ		h
Indonesia	<0.1	15 - 64	2005	UNODC Estimate	HHS	b
Japan				No recent, reliable estimate located		
Korea, DPR				No recent, reliable estimate located		
Korea, Rep.	<0.1	15 - 64	2004	ARQ	HHS	b, e, f
Lao PDR				No recent, reliable estimate located		
Macau SAR, China				No recent, reliable estimate located		
Malaysia				No recent, reliable estimate located		
Mongolia				No recent, reliable estimate located		
Myanmar				No recent, reliable estimate located		
Philippines	<0.1	15 - 64	2005	UNODC Estimate	HHS	
Singapore				No recent, reliable estimate located		
Taiwan, Prov. of China	0.1	15 - 64	2005	AMCEWG		
Thailand	<0.1	12 - 65	2007	ARQ	HHS	b, e
Timor-Leste				No recent, reliable estimate located		
Viet Nam				No recent, reliable estimate located		
Near and Middle East /South-West Asia						
Afghanistan				No recent, reliable estimate located		
Bahrain				No recent, reliable estimate located		
Iran				No recent, reliable estimate located		
Iraq				No recent, reliable estimate located		
Israel	0.6	18 - 40	2005	ARQ	HHS	b
Jordan	<0.1	15 - 64	1998	UNODC Estimate		
Kuwait	<0.1	15 - 64	2005	UNODC Estimate		g
Lebanon	0.1	15 - 64	2001	UNODC Estimate		d, e
Oman				No recent, reliable estimate located		
Pakistan				No recent, reliable estimate located		
Palestinian Territory				No recent, reliable estimate located		
Qatar				No recent, reliable estimate located		
Saudi Arabia				No recent, reliable estimate located		
Syria	<0.1	15 - 64	2005	UNODC Estimate		g
United Arab Emirates				No recent, reliable estimate located		
Yemen				No recent, reliable estimate located		
South Asia						
Bangladesh				No recent, reliable estimate located		
Bhutan				No recent, reliable estimate located		
India				No recent, reliable estimate located		
Maldives				No recent, reliable estimate located		
Nepal				No recent, reliable estimate located		
Sri Lanka				No recent, reliable estimate located		

Method: HHS=Household survey, SS=School survey, A=Adjusted from other sources, I=Indirect estimates, R=Registry. * approximate estimates

UNODC Adjustments: a=adjusted for age (15-64), b=population-based/household-type study/survey, c=adjusted from a limited geographic population-based study/survey, d=adjusted from school/youth survey, e=adjusted from lifetime/monthly prevalence adjusted to annual prevalence, f=adjusted from specialized population surveys (including Rapid Assessments), g=adjusted from treatment data, h=adjusted from drug registries, i=adjusted from HIV, problematic drug users (only for heroin), j=lifetime prevalence reported, z=figures may also include other non-ATS stimulants

The 'Method' and 'UNODC Adj.' columns have been completed only for more recent data included in the present issue of the World Drug Report.

COCAINE

Annual Prevalence of Use as a percentage of the population aged 15-64 (unless otherwise indicated)

Country or Territory	Prevalence	Ages	Year	Source (original)	Method	UNODC Adjusted
EUROPE						
East Europe						
Belarus	<0.1 - 0.1	15 - 64	2007	ESPAD	SS	d, e
Moldova, Rep.				No recent, reliable estimate located		
Russian Federation*	0.2 - 0.3	15 - 64	2007	ESPAD	SS	d, e
Ukraine	0.2 - 0.3	15 - 64	2007	ESPAD	SS	d, e
Southeast Europe						
Albania	<0.1	15 - 64	2004	UNODC Estimate		e
Bosnia & Herzegovina				No recent, reliable estimate located		
Bulgaria	0.6	15 - 64	2007	ARQ	HHS	b
Croatia	0.9	15 - 64	2007	ESPAD	SS	d, e
Macedonia, FYR	<0.1	15 - 64	2007	INCSR		
Montenegro				No recent, reliable estimate located		
Romania	0.1	15 - 64	2004	ARQ		
Serbia				No recent, reliable estimate located		
Turkey	<0.1	15 - 64	2003	UNODC Estimate		
West & Central Europe						
Andorra				No recent, reliable estimate located		
Austria	0.9	15 - 64	2008	Govt.	HHS	
Belgium	1.2 - 1.3	15 - 64	2007	ESPAD	SS	c, d, e
Cyprus	0.6	15 - 65	2006	ARQ		
Czech Rep.	0.2	15 - 64	2004	EMCDDA		
Denmark	1.0	16 - 64	2005	ARQ		
England & Wales	2.3	16 - 59	2008	Government source	HHS	
Estonia	0.6	15 - 64	2003	ARQ	HHS	
Finland	0.5	15 - 64	2006	ARQ		
France	0.6	15 - 64	2005	ARQ		
Germany	0.7	18 - 64	2006	Government source	HHS	
Greece	0.1	15 - 64	2004	ARQ		
Hungary	0.2	18 - 64	2007	ARQ	HHS	
Iceland	0.9	15 - 64	2007	ESPAD	SS	d, e
Ireland	1.7	15 - 64	2007	Government source	HHS	
Italy	2.2	15 - 64	2008	Government source	HHS	b
Latvia	0.5	15 - 64	2007	ARQ	HHS	
Liechtenstein	0.8	15 - 64	2005	UNODC Estimate		
Lithuania	0.3	15 - 64	2004	ARQ		d
Luxembourg	0.9	15 - 64	2003	UNODC Estimate		
Malta	1.1 - 1.2	18 - 65	2007	ESPAD	SS	d, e
Monaco	1.7 - 2.0	18 - 66	2007	ESPAD	SS	d, e
Netherlands	0.6	15 - 64	2005	ARQ		
Northern Ireland	1.9	15 - 64	2007	Government source	HHS	b
Norway	0.8	15 - 64	2004	ARQ		
Poland	0.2	15 - 64	2006	ARQ		
Portugal	0.6	15 - 64	2007	ARQ	HHS	
San Marino				No recent, reliable estimate located		
Scotland	3.8	16 - 59	2006	Government source	HHS	
Slovakia	0.6	15 - 64	2006	ARQ	HHS	
Slovenia	0.9	15 - 64	2007	ESPAD	SS	d, e
Spain	3.0	15 - 64	2007	Government source	HHS	
Sweden	0.5 - 0.6	15 - 64	2007	ESPAD	SS	d,e
Switzerland	0.8	15 - 64	2007	ESPAD	SS	d, e
OCEANIA						
Oceania						
Australia	1.9	15 - 64	2007	Government Source	HHS	

Method: HHS=Household survey, SS=School survey, A=Adjusted from other sources, I=Indirect estimates, R=Registry. * approximate estimates

UNODC Adjustments: a=adjusted for age (15-64), b=population-based/household-type study/survey, c=adjusted from a limited geographic population-based study/survey, d=adjusted from school/youth survey, e=adjusted from lifetime/monthly prevalence adjusted to annual prevalence, f=adjusted from specialized population surveys (including Rapid Assessments), g=adjusted from treatment data, h=adjusted from drug registries, i=adjusted from HIV, problematic drug users (only for heroin), j=lifetime prevalence reported, z=figures may also include other non-ATS stimulants

The 'Method' and 'UNODC Adj.' columns have been completed only for more recent data included in the present issue of the World Drug Report.

COCAINE

Annual Prevalence of Use as a percentage of the population aged 15-64 (unless otherwise indicated)

Country or Territory	Prevalence	Ages	Year	Source (original)	Method	UNODC Adjusted
Christmas Isl.				No recent, reliable estimate located		
Cocos (Keeling) Isl.				No recent, reliable estimate located		
Cook Isl.				No recent, reliable estimate located		
Fiji				No recent, reliable estimate located		
French Polynesia				No recent, reliable estimate located		
Kiribati				No recent, reliable estimate located		
Micronesia				No recent, reliable estimate located		
Nauru				No recent, reliable estimate located		
New Caledonia				No recent, reliable estimate located		
New Zealand	0.8	15 - 64	2006	ARQ	HHS	a
Norfolk Isl.				No recent, reliable estimate located		
Papua New Guinea				No recent, reliable estimate located		
Samoa				No recent, reliable estimate located		
Solomon Isl.				No recent, reliable estimate located		
Tonga				No recent, reliable estimate located		
Tuvalu				No recent, reliable estimate located		
Vanuatu				No recent, reliable estimate located		

Method: HHS=Household survey, SS=School survey, A=Adjusted from other sources, I=Indirect estimates, R=Registry. * approximate estimates

UNODC Adjustments: a=adjusted for age (15-64), b=population-based/household-type study/survey, c=adjusted from a limited geographic population-based study/survey, d=adjusted from school/youth survey, e=adjusted from lifetime/monthly prevalence adjusted to annual prevalence, f=adjusted from specialized population surveys (including Rapid Assessments), g=adjusted from treatment data, h=adjusted from drug registries, i=adjusted from HIV, problematic drug users (only for heroin), j=lifetime prevalence reported, z=figures may also include other non-ATS stimulants

The 'Method' and 'UNODC Adj.' columns have been completed only for more recent data included in the present issue of the World Drug Report.

3.5.1.3 Cannabis

CANNABIS

Annual Prevalence of Use as a percentage of the population aged 15-64 (unless otherwise indicated)

Country or Territory	Prevalence	Ages	Year	Source (original)	Method	UNODC Adjusted
AFRICA						
East Africa						
Burundi				No recent, reliable estimate located		
Comoros	2.9	15 - 64	2002	UNODC Estimate		
Djibouti				No recent, reliable estimate located		
Eritrea				No recent, reliable estimate located		
Ethiopia	2.6	15 - 64	1999	EADIS		
Kenya	4.7 - 10.0	15 - 64	2004	ARQ, NGO, Council of Europe	SS, A	c, d, e, f
Madagascar	9.1	15 - 64	2004	ARQ	SS, A	d, e
Mauritius	3.9	15 - 54	2004	ARQ		
Rwanda				No recent, reliable estimate located		
Seychelles				No recent, reliable estimate located		
Somalia	2.5	15 - 64	2002	UNODC Estimate		
Tanzania, U.R.				No recent, reliable estimate located		
Uganda				No recent, reliable estimate located		
North Africa						
Algeria	5.2 - 6.4	15 - 64	2006	International Group (Council of Europe)	SS, A	d
Egypt	2.9 - 9.6	15 - 64	2006	Govt; Academic Research	HHS, SS	a, b, d
Libya	<0.1	15 - 64	1998	ARQ	R	h
Morocco	4.2	15 - 64	2004	ARQ	HHS	
Sudan				No recent, reliable estimate located		
Tunisia				No recent, reliable estimate located		
Southern Africa						
Angola	2.1	15 - 64	1999	ARQ		e
Botswana				No recent, reliable estimate located		
Lesotho				No recent, reliable estimate located		
Malawi				No recent, reliable estimate located		
Mozambique				No recent, reliable estimate located		
Namibia	3.9	15 - 64	2000	ARQ		
South Africa	4.0 - 6.7	15 - 64	2006	ARQ	SS, A	c, d, e
Swaziland				No recent, reliable estimate located		
Zambia	17.7	15 - 64	2003	UNODC Estimate		
Zimbabwe	6.9	15 - 64	2000	UNODC Estimate		
West and Central Africa						
Benin				No recent, reliable estimate located		
Burkina Faso	2.9	15 - 64	2006	UNODC Estimate		d, e
Cameroon				No recent, reliable estimate located		
Cape Verde	8.1	15 - 64	2004	UNODC Estimate		d, e
Central African Rep.				No recent, reliable estimate located		
Chad				No recent, reliable estimate located		
Congo, DRC				No recent, reliable estimate located		
Congo, Rep.				No recent, reliable estimate located		
Côte d'Ivoire				No recent, reliable estimate located		
Equatorial Guinea				No recent, reliable estimate located		
Gabon				No recent, reliable estimate located		
Gambia				No recent, reliable estimate located		
Ghana	21.5	15 - 64	1998	UNODC Estimate		
Guinea				No recent, reliable estimate located		
Guinea-Bissau				No recent, reliable estimate located		
Liberia				No recent, reliable estimate located		
Mali				No recent, reliable estimate located		
Mauritania				No recent, reliable estimate located		
Niger				No recent, reliable estimate located		
Nigeria	13.8	15 - 64	2000	ARQ	R	h

Method: HHS=Household survey, SS=School survey, A=Adjusted from other sources, I=Indirect estimates, R=Registry. * approximate estimates

UNODC Adjustments: a=adjusted for age (15-64), b=population-based/household-type study/survey, c=adjusted from a limited geographic population-based study/survey, d=adjusted from school/youth survey, e=adjusted from lifetime/monthly prevalence adjusted to annual prevalence, f=adjusted from specialized population surveys (including Rapid Assessments), g=adjusted from treatment data, h=adjusted from drug registries, i=adjusted from HIV, problematic drug users (only for heroin), j=lifetime prevalence reported, z=figures may also include other non-ATS stimulants

The 'Method' and 'UNODC Adj.' columns have been completed only for more recent data included in the present issue of the World Drug Report.

CANNABIS

Annual Prevalence of Use as a percentage of the population aged 15-64 (unless otherwise indicated)

Country or Territory	Prevalence	Ages	Year	Source (original)	Method	UNODC Adjusted
Sao Tome & Principe				No recent, reliable estimate located		
Senegal				No recent, reliable estimate located		
Sierra Leone				No recent, reliable estimate located		
St. Helena				No recent, reliable estimate located		
Togo	2.7	15 - 64	2006	ARQ	SS	d, e
AMERICAS						
Caribbean						
Anguilla				No recent, reliable estimate located		
Antigua & Barbuda				No recent, reliable estimate located		
Bahamas	4.7	15 - 64	2003	UNODC Estimate	SS	d, e
Barbados	8.3	15 - 64	2007	CICAD	HHS	b
Bermuda				No recent, reliable estimate located		
British Virgin Isl.				No recent, reliable estimate located		
Cayman Isl.				No recent, reliable estimate located		
Cuba				No recent, reliable estimate located		
Dominica				No recent, reliable estimate located		
Dominican Rep.	1.9	15 - 64	2000	ARQ		e
Grenada	6.7	15 - 64	2003	UNODC Estimate		
Haiti	6.2	15 - 64	2005	ARQ	HHS	b
Jamaica	10.7	12 - 55	2001	UNODC Estimate		e
Montserrat				No recent, reliable estimate located		
Netherlands Antilles				No recent, reliable estimate located		
Puerto Rico				No recent, reliable estimate located		
St. Kitts & Nevis				No recent, reliable estimate located		
St. Lucia	9.0	15 - 64	2006	UNODC Estimate		d, e
St. Vincent & Grenadines	6.2	15 - 64	2002	UNODC Estimate	SS	d
Trinidad & Tobago	3.7	15 - 64	2002	UNODC Estimate		e
Turks & Caicos Isl.	5.4	15 - 64	2002	UNODC Estimate		
Central America						
Belize	8.5	12 - 65	2005	CICAD	HHS	
Costa Rica	1.0	12 - 70	2006	ARQ		
El Salvador	0.4	12 - 65	2005	CICAD	HHS	
Guatemala	4.8	15 - 64	2005	UNODC Estimate	HHS, SS	c, d
Honduras	1.5	15 - 64	2004	UNODC Estimate	SS	d, e
Nicaragua	1.1	12 - 65	2002	CICAD	HHS	
Panama	4.0	15 - 64	2003	UNODC Estimate	SS	d
North America						
Canada	17.0	15 - 64	2004	ARQ	HHS	a
Mexico	3.1	15 - 64	2005	UNODC Estimate		d
USA	12.3	15 - 64	2007	SAMHSA		
South America						
Argentina	7.2	15 - 64	2006	CICAD	HHS	
Bolivia	4.3	12 - 65	2007	CICAD	HHS	
Brazil	2.6	12 - 65	2005	Government source		
Chile	7.5	15 - 64	2006	CICAD	HHS	
Colombia	1.9	18 - 65	2003	ARQ		
Ecuador	0.7	15 - 64	2007	CICAD	HHS	
Falkland Isl. (Malvinas)				No recent, reliable estimate located		
Guyana	2.6	15 - 64	2002	UNODC Estimate		
Paraguay	1.6	15 - 64	2005	UNODC Estimate		
Peru	0.7	12 - 64	2006	ARQ	HHS	
Suriname	2.0	15 - 64	2002	UNODC Estimate		
Uruguay	6.0	12 - 65	2006	CICAD	HHS	
Venezuela	7.5	15 - 64	2005	ARQ		

Method: HHS=Household survey, SS=School survey, A=Adjusted from other sources, I=Indirect estimates, R=Registry. * approximate estimates

UNODC Adjustments: a=adjusted for age (15-64), b=population-based/household-type study/survey, c=adjusted from a limited geographic population-based study/survey, d=adjusted from school/youth survey, e=adjusted from lifetime/monthly prevalence adjusted to annual prevalence, f=adjusted from specialized population surveys (including Rapid Assessments), g=adjusted from treatment data, h=adjusted from drug registries, i=adjusted from HIV, problematic drug users (only for heroin), j=lifetime prevalence reported, z=figures may also include other non-ATS stimulants

The 'Method' and 'UNODC Adj.' columns have been completed only for more recent data included in the present issue of the World Drug Report.

CANNABIS

Annual Prevalence of Use as a percentage of the population aged 15-64 (unless otherwise indicated)

Country or Territory	Prevalence	Ages	Year	Source (original)	Method	UNODC Adjusted
ASIA						
Central Asia and Transcaucasian countries						
Armenia	3.5	15 - 64	2003	UNODC Estimate		
Azerbaijan	3.5	15 - 64	2004	UNODC Estimate		
Georgia	0.5 - 1.7	15 - 64	2005	UNODC Estimate		a, d, e
Kazakhstan	4.2	15 - 64	2003	INCSR		
Kyrgyzstan	6.4	15 - 64	2001	ARQ		
Tajikistan	3.4	15 - 64	1998	UNODC Estimate		
Turkmenistan				No recent, reliable estimate located		
Uzbekistan	4.2	15 - 64	2003	UNODC Estimate		e
East and South-East Asia						
Brunei Darussalam				No recent, reliable estimate located		
Cambodia	3.5	15 - 64	2003	UNODC Estimate		
China				No recent, reliable estimate located		
Hong Kong SAR, China	<0.1	15 - 64	2005	ARQ	R	
Indonesia	0.7	15 - 64	2005	ARQ		a
Japan				No recent, reliable estimate located		
Korea, DPR				No recent, reliable estimate located		
Korea, Rep.	<0.1 - 0.6	15 - 64	2004	ARQ	HHS	b, c, e
Lao PDR	0.7 - 1.1	15 - 64	2008	UNODC report	SS	c, d
Macau SAR, China	0.7	15 - 64	2003	UNODC Estimate	R	d, e
Malaysia	1.6	15 - 64	2003	UNODC Estimate		
Mongolia				No recent, reliable estimate located		
Myanmar	0.9	15 - 64	2005	UNODC Estimate		d, e
Philippines	0.7 - 0.9	15 - 64	2008	Government source	HHS	c, e
Singapore				No recent, reliable estimate located		
Taiwan, Prov. of China	0.3	12 - 64	2005	AMCEWG		
Thailand	1.2	12 - 65	2007	ARQ	HHS	
Timor-Leste				No recent, reliable estimate located		
Viet Nam	0.3	15 - 64	2002	UNODC Estimate		
Near and Middle East /South-West Asia						
Afghanistan	3.6	15 - 64	2005	UNODC Study (ICMP)		
Bahrain				No recent, reliable estimate located		
Iran	4.2	15 - 64	1999	ARQ		
Iraq				No recent, reliable estimate located		
Israel	8.5	18 - 40	2005	ARQ		
Jordan	2.1	15 - 64	2001	ARQ		a
Kuwait	3.1	15 - 64	2005	UNODC Estimate		
Lebanon	6.4	15 - 64	2001	ARQ		d
Oman	0.1	15 - 64	1999			
Pakistan	3.9	15 - 64	2000	INCSR		
Palestinian Territory				No recent, reliable estimate located		
Qatar				No recent, reliable estimate located		
Saudi Arabia	0.3	15 - 64	2006	Government source/ NGO/Academic research	R	
Syria				No recent, reliable estimate located		
United Arab Emirates	5.4	15 - 64	2006	UNODC Estimate		
Yemen				No recent, reliable estimate located		
South Asia						
Bangladesh	3.3	15 - 54	2004	Academic research	HHS	a, e,f
Bhutan				No recent, reliable estimate located		
India	3.2	15 - 60	2000	ARQ		a, b, e, f
Maldives				No recent, reliable estimate located		
Nepal	3.2	15 - 64	1998	UNODC Estimate		
Sri Lanka	1.5	15 - 64	2000	UNODC Estimate		

Method: HHS=Household survey, SS=School survey, A=Adjusted from other sources, I=Indirect estimates, R=Registry. * approximate estimates

UNODC Adjustments: a=adjusted for age (15-64), b=population-based/household-type study/survey, c=adjusted from a limited geographic population-based study/survey, d=adjusted from school/youth survey, e=adjusted from lifetime/monthly prevalence adjusted to annual prevalence, f=adjusted from specialized population surveys (including Rapid Assessments), g=adjusted from treatment data, h=adjusted from drug registries, i=adjusted from HIV, problematic drug users (only for heroin), j=lifetime prevalence reported, z=figures may also include other non-ATS stimulants

The 'Method' and 'UNODC Adj.' columns have been completed only for more recent data included in the present issue of the World Drug Report.

CANNABIS

Annual Prevalence of Use as a percentage of the population aged 15-64 (unless otherwise indicated)

Country or Territory	Prevalence	Ages	Year	Source (original)	Method	UNODC Adjusted
EUROPE						
East Europe						
Belarus	0.9 - 1.3	15 - 64	2007	ESPAD	SS	c, d, e
Moldova, Rep.				No recent, reliable estimate located		
Russian Federation*	3.5	15 - 64	2007	ESPAD	SS	d, e
Ukraine	2.4 - 2.6	15 - 64	2007	ESPAD	SS	d, e
Southeast Europe						
Albania	1.8	15 - 64	2004	ARQ		
Bosnia & Herzegovina	3.0	15 - 64	2005	INCSR	R	h
Bulgaria	2.2	15 - 64	2007	ARQ	HHS	c, d, e
Croatia	5.1 - 5.3	15 - 64	2007	ESPAD	SS	d, e
Macedonia, FYR				No recent, reliable estimate located		
Montenegro				No recent, reliable estimate located		
Romania	0.9	15 - 64	2004	ARQ		
Serbia				No recent, reliable estimate located		
Turkey	1.9	15 - 64	2003	UNODC Estimate		
West & Central Europe						
Andorra				No recent, reliable estimate located		
Austria	3.5	15 - 64	2008	Govt.	HHS	a
Belgium	5.0	15 - 64	2004	EMCDDA	HHS	
Cyprus	2.1	15 - 64	2006	ARQ		
Czech Rep.	9.3	18 - 64	2004	ARQ		
Denmark	5.2	16 - 64	2005	ARQ		
England & Wales	7.4	16 - 59	2008	Government source	HHS	
Estonia	4.6	15 - 64	2003	ARQ	HHS	
Finland	3.6	15 - 64	2006	ARQ		
France	8.6	15 - 64	2005	ARQ		
Germany	4.7	18 - 64	2007	Government source	HHS	
Greece	1.7	15 - 64	2004	ARQ		
Hungary	2.3	18 - 64	2007	ARQ		
Iceland	3.2 - 3.5	15 - 64	2007	ESPAD	SS	d, e
Ireland	6.3	15 - 64	2007	Government source	HHS	
Italy	14.6	15 - 64	2008	Government source	HHS	
Latvia	4.9	15 - 64	2007	ARQ		
Liechtenstein	8.6	15 - 64	2005	UNODC Estimate		
Lithuania	2.2	15 - 64	2004	ARQ		
Luxembourg	7.6	15 - 64	2003	UNODC Estimate		
Malta	4.4 - 4.6	15 - 64	2007	ESPAD	SS	d, e
Monaco	7.9 - 10.0	15 - 64	2007	ESPAD	SS	d, e
Netherlands	5.4	15 - 64	2005	ARQ		
Northern Ireland	7.2	16 - 59	2007	Government source	HHS	
Norway	4.6	15 - 64	2004	ARQ		
Poland	2.7	15 - 64	2006	ARQ		
Portugal	3.6	15 - 64	2007	ARQ	HHS	
San Marino				No recent, reliable estimate located		
Scotland	11.0	16 - 59	2006	Government source	HHS	
Slovakia	6.9	15 - 64	2006	ARQ		
Slovenia	4.1	15 - 64	2007	ESPAD	SS	d, e
Spain	10.1	15 - 64	2007	Government source	HHS	
Sweden	2.1	15 - 64	2007	ARQ	HHS	
Switzerland	8.5 - 10.9	15 - 64	2007	ESPAD	SS	d, e
OCEANIA						
Oceania						
Australia	10.6	15 - 64	2007	Government source	HHS	

Method: HHS=Household survey, SS=School survey, A=Adjusted from other sources, I=Indirect estimates, R=Registry. * approximate estimates

UNODC Adjustments: a=adjusted for age (15-64), b=population-based/household-type study/survey, c=adjusted from a limited geographic population-based study/survey, d=adjusted from school/youth survey, e=adjusted from lifetime/monthly prevalence adjusted to annual prevalence, f=adjusted from specialized population surveys (including Rapid Assessments), g=adjusted from treatment data, h=adjusted from drug registries, i=adjusted from HIV, problematic drug users (only for heroin), j=lifetime prevalence reported, z=figures may also include other non-ATS stimulants

The 'Method' and 'UNODC Adj.' columns have been completed only for more recent data included in the present issue of the World Drug Report.

CANNABIS Annual Prevalence of Use as a percentage of the population aged 15-64 (unless otherwise indicated)						
Country or Territory	Prevalence	Ages	Year	Source (original)	Method	UNODC Adjusted
Christmas Isl.				No recent, reliable estimate located		
Cocos (Keeling) Isl.				No recent, reliable estimate located		
Cook Isl.				No recent, reliable estimate located		
Fiji				No recent, reliable estimate located		
French Polynesia				No recent, reliable estimate located		
Kiribati				No recent, reliable estimate located		
Micronesia				No recent, reliable estimate located		
Nauru				No recent, reliable estimate located		
New Caledonia				No recent, reliable estimate located		
New Zealand	13.3	15 - 64	2006	ARQ	HHS	a
Norfolk Isl.				No recent, reliable estimate located		
Papua New Guinea				No recent, reliable estimate located		
Samoa				No recent, reliable estimate located		
Solomon Isl.				No recent, reliable estimate located		
Tonga				No recent, reliable estimate located		
Tuvalu				No recent, reliable estimate located		
Vanuatu				No recent, reliable estimate located		

Method: HHS=Household survey, SS=School survey, A=Adjusted from other sources, I=Indirect estimates, R=Registry. * approximate estimates

UNODC Adjustments: a=adjusted for age (15-64), b=population-based/household-type study/survey, c=adjusted from a limited geographic population-based study/survey, d=adjusted from school/youth survey, e=adjusted from lifetime/monthly prevalence adjusted to annual prevalence, f=adjusted from specialized population surveys (including Rapid Assessments), g=adjusted from treatment data, h=adjusted from drug registries, i=adjusted from HIV, problematic drug users (only for heroin), j=lifetime prevalence reported, z=figures may also include other non-ATS stimulants

The 'Method' and 'UNODC Adj.' columns have been completed only for more recent data included in the present issue of the World Drug Report.

3.5.1.4 Amphetamine-type stimulants (excluding ecstasy)

AMPHETAMINES

Annual Prevalence of Use as a percentage of the population aged 15-64 (unless otherwise indicated)

Country or Territory	Prevalence	Ages	Year	Source (original)	Method	UNODC Adjusted
AFRICA						
East Africa						
Burundi				No recent, reliable estimate located		
Comoros				No recent, reliable estimate located		
Djibouti				No recent, reliable estimate located		
Eritrea				No recent, reliable estimate located		
Ethiopia				No recent, reliable estimate located		
Kenya				No recent, reliable estimate located		
Madagascar				No recent, reliable estimate located		
Mauritius				No recent, reliable estimate located		
Rwanda				No recent, reliable estimate located		
Seychelles				No recent, reliable estimate located		
Somalia				No recent, reliable estimate located		
Tanzania, U.R.				No recent, reliable estimate located		
Uganda				No recent, reliable estimate located		
North Africa						
Algeria				No recent, reliable estimate located		
Egypt	0.4 - 0.5	15 - 64	2006	Govt; Academic Research	HHS, SS	a, b, d
Libya				No recent, reliable estimate located		
Morocco	<0.1	15 - 64	1999	ARQ		
Sudan				No recent, reliable estimate located		
Tunisia				No recent, reliable estimate located		
Southern Africa						
Angola				No recent, reliable estimate located		
Botswana				No recent, reliable estimate located		
Lesotho				No recent, reliable estimate located		
Malawi				No recent, reliable estimate located		
Mozambique				No recent, reliable estimate located		
Namibia	<0.1	15 - 64	2000	ARQ		
South Africa	0.5 - 0.8	15 - 64	2006	ARQ	HHS, SS	b, c, d, e
Swaziland				No recent, reliable estimate located		
Zambia	0.1	15 - 64	2003	UNODC Estimate		
Zimbabwe	0.1	15 - 64	2000	ARQ		
West and Central Africa						
Benin				No recent, reliable estimate located		
Burkina Faso				No recent, reliable estimate located		
Cameroon				No recent, reliable estimate located		
Cape Verde				No recent, reliable estimate located		
Central African Rep.				No recent, reliable estimate located		
Chad				No recent, reliable estimate located		
Congo, DRC				No recent, reliable estimate located		
Congo, Rep.				No recent, reliable estimate located		
Côte d'Ivoire				No recent, reliable estimate located		
Equatorial Guinea				No recent, reliable estimate located		
Gabon				No recent, reliable estimate located		
Gambia				No recent, reliable estimate located		
Ghana				No recent, reliable estimate located		
Guinea				No recent, reliable estimate located		
Guinea-Bissau				No recent, reliable estimate located		
Liberia				No recent, reliable estimate located		
Mali				No recent, reliable estimate located		
Mauritania				No recent, reliable estimate located		
Niger				No recent, reliable estimate located		
Nigeria	1.1	15 - 64	1999	UNODC Estimate		

Method: HHS=Household survey, SS=School survey, A=Adjusted from other sources, I=Indirect estimates, R=Registry. * approximate estimates

UNODC Adjustments: a=adjusted for age (15-64), b=population-based/household-type study/survey, c=adjusted from a limited geographic population-based study/survey, d=adjusted from school/youth survey, e=adjusted from lifetime/monthly prevalence adjusted to annual prevalence, f=adjusted from specialized population surveys (including Rapid Assessments), g=adjusted from treatment data, h=adjusted from drug registries, i=adjusted from HIV, problematic drug users (only for heroin), j=lifetime prevalence reported, z=figures may also include other non-ATS stimulants

The 'Method' and 'UNODC Adj.' columns have been completed only for more recent data included in the present issue of the World Drug Report.

AMPHETAMINES

Annual Prevalence of Use as a percentage of the population aged 15-64 (unless otherwise indicated)

Country or Territory	Prevalence	Ages	Year	Source (original)	Method	UNODC Adjusted
Sao Tome & Principe				No recent, reliable estimate located		
Senegal				No recent, reliable estimate located		
Sierra Leone				No recent, reliable estimate located		
St. Helena				No recent, reliable estimate located		
Togo				No recent, reliable estimate located		
AMERICAS						
Caribbean						
Anguilla				No recent, reliable estimate located		
Antigua & Barbuda				No recent, reliable estimate located		
Bahamas	0.3	15 - 64	2003	UNODC Estimate		d, e
Barbados	0.2	15 - 64	2007	CICAD	HHS	
Bermuda				No recent, reliable estimate located		
British Virgin Isl.				No recent, reliable estimate located		
Cayman Isl.				No recent, reliable estimate located		
Cuba				No recent, reliable estimate located		
Dominica				No recent, reliable estimate located		
Dominican Rep.	1.1	15 - 64	2003	UNODC Estimate		d, e
Grenada	0.7	15 - 64	2005	ARQ		
Haiti				No recent, reliable estimate located		
Jamaica				No recent, reliable estimate located		
Montserrat				No recent, reliable estimate located		
Netherlands Antilles				No recent, reliable estimate located		
Puerto Rico				No recent, reliable estimate located		
St. Kitts & Nevis				No recent, reliable estimate located		
St. Lucia				No recent, reliable estimate located		
St. Vincent & Grenadines				No recent, reliable estimate located		
Trinidad & Tobago	0.8	15 - 64	2002	UNODC Estimate		d, e
Turks & Caicos Isl.	0.3	15 - 64	2003	UNODC Estimate		d, e
Central America						
Belize	1.4	12 - 65	2005	CICAD	HHS	
Costa Rica	1.3	12 - 70	2006	ARQ		
El Salvador	3.3	12 - 65	2005	CICAD	HHS	z
Guatemala	0.9	15 - 64	2005	UNODC Estimate		d, e
Honduras	0.8	15 - 64	2005	UNODC Estimate		d,e
Nicaragua	0.8	15 - 64	2003	UNODC Estimate		d
Panama	0.6	15 - 64	2003	UNODC Estimate		d
North America						
Canada	1.0	15 - 64	2004	ARQ		a
Mexico	0.4	15 - 64	2006	UNODC Estimate		a, c
USA	1.6	15 - 64	2007	SAMHSA	HHS	
South America						
Argentina	0.6	15 - 64	2005	UNODC Estimate		d, e
Bolivia	0.5	12 - 65	2007	ARQ	HHS	
Brazil	0.7	12 - 65	2005	Government source		
Chile	0.4	12 - 64	2006	Government source		
Colombia	0.5	15 - 64	2005	UNODC Estimate		d, e
Ecuador	0.2	15 - 64	2005	UNODC Estimate		d, e
Falkland Isl. (Malvinas)				No recent, reliable estimate located		
Guyana				No recent, reliable estimate located		
Paraguay	0.5	15 - 64	2005	UNODC Estimate		d, e
Peru	0.2	12 - 64	2006	Govt.		
Suriname	0.6	15 - 64	2002	UNODC Estimate		d, e
Uruguay	0.3	12 - 65	2006	ARQ		
Venezuela	0.6	15 - 64	2002	UNODC Estimate		d, e

Method: HHS=Household survey, SS=School survey, A=Adjusted from other sources, I=Indirect estimates, R=Registry. * approximate estimates

UNODC Adjustments: a=adjusted for age (15-64), b=population-based/household-type study/survey, c=adjusted from a limited geographic population-based study/survey, d=adjusted from school/youth survey, e=adjusted from lifetime/monthly prevalence adjusted to annual prevalence, f=adjusted from specialized population surveys (including Rapid Assessments), g=adjusted from treatment data, h=adjusted from drug registries, i=adjusted from HIV, problematic drug users (only for heroin), j=lifetime prevalence reported, z=figures may also include other non-ATS stimulants

The 'Method' and 'UNODC Adj.' columns have been completed only for more recent data included in the present issue of the World Drug Report.

AMPHETAMINES

Annual Prevalence of Use as a percentage of the population aged 15-64 (unless otherwise indicated)

Country or Territory	Prevalence	Ages	Year	Source (original)	Method	UNODC Adjusted
ASIA						
Central Asia and Transcaucasian countries						
Armenia	<0.1	15 - 64	2005	UNODC Estimate	HHS	
Azerbaijan				No recent, reliable estimate located		
Georgia				No recent, reliable estimate located		
Kazakhstan				No recent, reliable estimate located		
Kyrgyzstan				No recent, reliable estimate located		
Tajikistan				No recent, reliable estimate located		
Turkmenistan				No recent, reliable estimate located		
Uzbekistan				No recent, reliable estimate located		
East and South-East Asia						
Brunei Darussalam	0.3	15 - 64	2006	UNODC Estimate		g
Cambodia	0.6	15 - 64	2004	UNODC Estimate		d, e
China				No recent, reliable estimate located		
Hong Kong SAR, China	0.2	15 - 64	2006	UNODC Estimate		h
Indonesia	0.3	15 - 64	2005	Government source	HHS	
Japan				No recent, reliable estimate located		
Korea, DPR				No recent, reliable estimate located		
Korea, Rep.	<0.1 - 0.2	15 - 64	2004	ARQ	HHS	b, c, e
Lao PDR	1.1 - 1.7	15 - 64	2008	Academic research	SS, A	c, d, e
Macau SAR, China				No recent, reliable estimate located		
Malaysia	0.6	15 - 64	2005	UNODC Estimate		d, g, h
Mongolia				No recent, reliable estimate located		
Myanmar	0.2	15 - 64	2005	UNODC Estimate		d, f
Philippines	1.9 - 2.4	15 - 64	2008	Government source	HHS	c, e
Singapore				No recent, reliable estimate located		
Taiwan, Prov. of China	0.6	12 - 64	2005	AMCEWG		
Thailand	1.4	12 - 65	2007	ARQ	HHS	
Timor-Leste				No recent, reliable estimate located		
Viet Nam	0.2	15 - 64	2003	UNODC Estimate		h
Near and Middle East /South-West Asia						
Afghanistan				No recent, reliable estimate located		
Bahrain				No recent, reliable estimate located		
Iran				No recent, reliable estimate located		
Iraq				No recent, reliable estimate located		
Israel	0.4	18 - 40	2005	ARQ		
Jordan	0.4	15 - 64	2001	UNODC Estimate		
Kuwait	0.3	15 - 64	2005	UNODC Estimate		g
Lebanon	0.4	15 - 64	2001	UNODC Estimate		d, e
Oman	0.1	15 - 10	1998	ARQ		
Pakistan				No recent, reliable estimate located		
Palestinian Territory				No recent, reliable estimate located		
Qatar				No recent, reliable estimate located		
Saudi Arabia	0.4	15 - 64	2006	UNODC Estimate		g
Syria				No recent, reliable estimate located		
United Arab Emirates				No recent, reliable estimate located		
Yemen				No recent, reliable estimate located		
South Asia						
Bangladesh				No recent, reliable estimate located		
Bhutan				No recent, reliable estimate located		
India				No recent, reliable estimate located		
Maldives				No recent, reliable estimate located		
Nepal				No recent, reliable estimate located		
Sri Lanka				No recent, reliable estimate located		

Method: HHS=Household survey, SS=School survey, A=Adjusted from other sources, I=Indirect estimates, R=Registry. * approximate estimates

UNODC Adjustments: a=adjusted for age (15-64), b=population-based/household-type study/survey, c=adjusted from a limited geographic population-based study/survey, d=adjusted from school/youth survey, e=adjusted from lifetime/monthly prevalence adjusted to annual prevalence, f=adjusted from specialized population surveys (including Rapid Assessments), g=adjusted from treatment data, h=adjusted from drug registries, i=adjusted from HIV, problematic drug users (only for heroin), j=lifetime prevalence reported, z=figures may also include other non-ATS stimulants

The 'Method' and 'UNODC Adj.' columns have been completed only for more recent data included in the present issue of the World Drug Report.

AMPHETAMINES

Annual Prevalence of Use as a percentage of the population aged 15-64 (unless otherwise indicated)

Country or Territory	Prevalence	Ages	Year	Source (original)	Method	UNODC Adjusted
EUROPE						
East Europe						
Belarus	0.4	15 - 64	2006	UNODC Estimate		g
Moldova, Rep.	0.2	15 - 64	1998	UNODC Estimate		
Russian Federation*	0.2 - 0.6	15 - 64	2007	ESPAD	SS	d, e
Ukraine	0.2 - 0.6	15 - 64	2007	ESPAD	SS	d, e
Southeast Europe						
Albania	<0.1	15 - 64	2004	ARQ		
Bosnia & Herzegovina				No recent, reliable estimate located		
Bulgaria	0.5	15 - 64	2007	ARQ	HHS, c	
Croatia	0.6 - 0.8	15 - 64	2007	ESPAD	SS	d, e
Macedonia, FYR				No recent, reliable estimate located		
Montenegro				No recent, reliable estimate located		
Romania	0.1	15 - 64	2004	UNODC Estimate		d, e
Serbia				No recent, reliable estimate located		
Turkey	0.2	15 - 64	2003	UNODC Estimate		
West & Central Europe						
Andorra				No recent, reliable estimate located		
Austria	0.5	15 - 64	2008	Government source	HHS	a
Belgium	0.6 - 1.1	15 - 64	2007	ESPAD	SS	c, d, e
Cyprus	0.4	15 - 64	2006	ARQ		
Czech Rep.	0.7	18 - 64	2004	ARQ		
Denmark	0.7	16 - 64	2005	ARQ		
England & Wales	1.0	16 - 59	2008	Government source	HHS	
Estonia	1.3	15 - 64	2003	ARQ	HHS	
Finland	0.6	15 - 64	2006	ARQ		
France	0.2	15 - 64	2005	ARQ		
Germany	0.5	18 - 64	2006	Government source	HHS	
Greece	0.2	15 - 64	2004	ARQ		
Hungary	0.6	18 - 64	2007	ARQ		
Iceland	0.6 - 0.9	15 - 64	2003	ESPAD	SS	
Ireland	0.4	15 - 64	2007	Government source	HHS	
Italy	0.6 - 0.7	15 - 64	2007	Government source/ ESPAD	HHS, SS	d, e
Latvia	0.9	15 - 64	2007	ARQ		
Liechtenstein	0.2	15 - 64	2005	UNODC Estimate		d
Lithuania	0.3	15 - 64	2004	ARQ	HHS	
Luxembourg	0.4	15 - 64	1999	UNODC Estimate		
Malta	0.6 - 1.2	15 - 64	2007	ESPAD	SS	d, e
Monaco	0.5 - 0.6	15 - 64	2007	ESPAD	SS	d, e
Netherlands	0.3	15 - 64	2005	ARQ	HHS	
Northern Ireland	1.0	16 - 59	2007	Government source	HHS	
Norway	1.1	15 - 64	2004	ARQ	HHS	
Poland	0.7	15 - 64	2006	ARQ		
Portugal	0.2	15 - 64	2007	ARQ	HHS	
San Marino				No recent, reliable estimate located		
Scotland	2.2	16 - 59	2006	Government source	HHS	
Slovakia	0.2	15 - 64	2004	ARQ	HHS	
Slovenia	0.4 - 0.6	15 - 64	2007	ESPAD	SS	d, e
Spain	0.9	15 - 64	2007	Government source	HHS	
Sweden	0.2 - 0.6	15 - 64	2007	ESPAD	SS	d, e
Switzerland	0.6 - 0.7	15 - 64	2007	ESPAD	SS	d, e
OCEANIA						
Oceania						
Australia	2.7	15 - 64	2007	Government source	HHS	

Method: HHS=Household survey, SS=School survey, A=Adjusted from other sources, I=Indirect estimates, R=Registry. * approximate estimates

UNODC Adjustments: a=adjusted for age (15-64), b=population-based/household-type study/survey, c=adjusted from a limited geographic population-based study/survey, d=adjusted from school/youth survey, e=adjusted from lifetime/monthly prevalence adjusted to annual prevalence, f=adjusted from specialized population surveys (including Rapid Assessments), g=adjusted from treatment data, h=adjusted from drug registries, i=adjusted from HIV, problematic drug users (only for heroin), j=lifetime prevalence reported, z=figures may also include other non-ATS stimulants

The 'Method' and 'UNODC Adj.' columns have been completed only for more recent data included in the present issue of the World Drug Report.

AMPHETAMINES

Annual Prevalence of Use as a percentage of the population aged 15-64 (unless otherwise indicated)

Country or Territory	Prevalence	Ages	Year	Source (original)	Method	UNODC Adjusted
Christmas Isl.				No recent, reliable estimate located		
Cocos (Keeling) Isl.				No recent, reliable estimate located		
Cook Isl.				No recent, reliable estimate located		
Fiji				No recent, reliable estimate located		
French Polynesia				No recent, reliable estimate located		
Kiribati				No recent, reliable estimate located		
Micronesia				No recent, reliable estimate located		
Nauru				No recent, reliable estimate located		
New Caledonia				No recent, reliable estimate located		
New Zealand	2.3	15 - 64	2006	ARQ	HHS	a
Norfolk Isl.				No recent, reliable estimate located		
Papua New Guinea				No recent, reliable estimate located		
Samoa				No recent, reliable estimate located		
Solomon Isl.				No recent, reliable estimate located		
Tonga				No recent, reliable estimate located		
Tuvalu				No recent, reliable estimate located		
Vanuatu				No recent, reliable estimate located		

Method: HHS=Household survey, SS=School survey, A=Adjusted from other sources, I=Indirect estimates, R=Registry. * approximate estimates

UNODC Adjustments: a=adjusted for age (15-64), b=population-based/household-type study/survey, c=adjusted from a limited geographic population-based study/survey, d=adjusted from school/youth survey, e=adjusted from lifetime/monthly prevalence adjusted to annual prevalence, f=adjusted from specialized population surveys (including Rapid Assessments), g=adjusted from treatment data, h=adjusted from drug registries, i=adjusted from HIV, problematic drug users (only for heroin), j=lifetime prevalence reported, z=figures may also include other non-ATS stimulants

The 'Method' and 'UNODC Adj.' columns have been completed only for more recent data included in the present issue of the World Drug Report.

3.5.1.5 Ecstasy

ECSTASY

Annual Prevalence of Use as a percentage of the population aged 15-64 (unless otherwise indicated)

Country or Territory	Prevalence	Ages	Year	Source (original)	Method	UNODC Adjusted
AFRICA						
East Africa						
Burundi				No recent, reliable estimate located		
Comoros				No recent, reliable estimate located		
Djibouti				No recent, reliable estimate located		
Eritrea				No recent, reliable estimate located		
Ethiopia				No recent, reliable estimate located		
Kenya				No recent, reliable estimate located		
Madagascar				No recent, reliable estimate located		
Mauritius				No recent, reliable estimate located		
Rwanda				No recent, reliable estimate located		
Seychelles				No recent, reliable estimate located		
Somalia				No recent, reliable estimate located		
Tanzania, U.R.				No recent, reliable estimate located		
Uganda				No recent, reliable estimate located		
North Africa						
Algeria				No recent, reliable estimate located		
Egypt				No recent, reliable estimate located		
Libya				No recent, reliable estimate located		
Morocco	<0.1	15 - 64	2003	ARQ		
Sudan				No recent, reliable estimate located		
Tunisia				No recent, reliable estimate located		
Southern Africa						
Angola				No recent, reliable estimate located		
Botswana				No recent, reliable estimate located		
Lesotho				No recent, reliable estimate located		
Malawi				No recent, reliable estimate located		
Mozambique				No recent, reliable estimate located		
Namibia	<0.1	15 - 64	2000	ARQ		
South Africa	0.4	15 - 64	2004	UNODC Estimate		d, e
Swaziland				No recent, reliable estimate located		
Zambia	0.3	15 - 64	2003	UNODC Estimate		e, f
Zimbabwe				No recent, reliable estimate located		
West and Central Africa						
Benin				No recent, reliable estimate located		
Burkina Faso				No recent, reliable estimate located		
Cameroon				No recent, reliable estimate located		
Cape Verde	<0.1	15 - 64	2004	UNODC Estimate		d
Central African Rep.				No recent, reliable estimate located		
Chad				No recent, reliable estimate located		
Congo, DRC				No recent, reliable estimate located		
Congo, Rep.				No recent, reliable estimate located		
Côte d'Ivoire				No recent, reliable estimate located		
Equatorial Guinea				No recent, reliable estimate located		
Gabon				No recent, reliable estimate located		
Gambia				No recent, reliable estimate located		
Ghana				No recent, reliable estimate located		
Guinea				No recent, reliable estimate located		
Guinea-Bissau				No recent, reliable estimate located		
Liberia				No recent, reliable estimate located		
Mali				No recent, reliable estimate located		
Mauritania				No recent, reliable estimate located		
Niger				No recent, reliable estimate located		
Nigeria				No recent, reliable estimate located		

Method: HHS=Household survey, SS=School survey, A=Adjusted from other sources, I=Indirect estimates, R=Registry. * approximate estimates

UNODC Adjustments: a=adjusted for age (15-64), b=population-based/household-type study/survey, c=adjusted from a limited geographic population-based study/survey, d=adjusted from school/youth survey, e=adjusted from lifetime/monthly prevalence adjusted to annual prevalence, f=adjusted from specialized population surveys (including Rapid Assessments), g=adjusted from treatment data, h=adjusted from drug registries, i=adjusted from HIV, problematic drug users (only for heroin), j=lifetime prevalence reported, z=figures may also include other non-ATS stimulants

The 'Method' and 'UNODC Adj.' columns have been completed only for more recent data included in the present issue of the World Drug Report.

ECSTASY

Annual Prevalence of Use as a percentage of the population aged 15-64 (unless otherwise indicated)

Country or Territory	Prevalence	Ages	Year	Source (original)	Method	UNODC Adjusted
Sao Tome & Principe				No recent, reliable estimate located		
Senegal				No recent, reliable estimate located		
Sierra Leone				No recent, reliable estimate located		
St. Helena				No recent, reliable estimate located		
Togo				No recent, reliable estimate located		
AMERICAS						
Caribbean						
Anguilla				No recent, reliable estimate located		
Antigua & Barbuda				No recent, reliable estimate located		
Bahamas	0.1	15 - 64	2003	UNODC Estimate		d, e
Barbados	0.5	15 - 64	2007	CICAD	HHS	b
Bermuda				No recent, reliable estimate located		
British Virgin Isl.				No recent, reliable estimate located		
Cayman Isl.				No recent, reliable estimate located		
Cuba				No recent, reliable estimate located		
Dominica				No recent, reliable estimate located		
Dominican Rep.	0.2	12 - 70	2000	UNODC Estimate		d, e
Grenada				No recent, reliable estimate located		
Haiti				No recent, reliable estimate located		
Jamaica				No recent, reliable estimate located		
Montserrat				No recent, reliable estimate located		
Netherlands Antilles				No recent, reliable estimate located		
Puerto Rico				No recent, reliable estimate located		
St. Kitts & Nevis				No recent, reliable estimate located		
St. Lucia				No recent, reliable estimate located		
St. Vincent & Grenadines				No recent, reliable estimate located		
Trinidad & Tobago	0.1	15 - 64	2005	UNODC Estimate		
Turks & Caicos Isl.	0.7	15 - 64	2003	UNODC Estimate		d, e
Central America						
Belize	0.3	12 - 65	2005	Government source	HHS	b
Costa Rica	0.1 - 0.4	12 - 70	2006	ARQ	SS	d, e
El Salvador	<0.1	12 - 65	2005	CICAD	HHS	e
Guatemala	<0.1	15 - 64	2005	UNODC Estimate		
Honduras	<0.1	12 - 35	2005	UNODC Estimate		d
Nicaragua	<0.1	12 - 65	2006	CICAD	HHS	b, e
Panama	0.4	12 - 65	2003	UNODC Estimate		d
North America						
Canada	1.3	15 - 64	2004	ARQ		a
Mexico	<0.1	15 - 64	2002	CONADIC		
USA	1.1	15 - 64	2007	SAMHSA	HHS	
South America						
Argentina	0.5	12 - 65	2006	Government source		
Bolivia	0.1	15 - 64	2007	ARQ	HHS	
Brazil	0.2	12 - 65	2005	UNODC Estimate		
Chile	0.1	15 - 64	2006	Government source		
Colombia	0.2	15 - 64	2005	UNODC Estimate		
Ecuador	0.2	15 - 64	2005	UNODC Estimate		
Falkland Isl. (Malvinas)				No recent, reliable estimate located		
Guyana	0.1	15 - 64	2002	UNODC Estimate		
Paraguay	<0.1	15 - 64	2005	UNODC Estimate		
Peru	<0.1	12 - 64	2006	ARQ	HHS	
Suriname	0.1	15 - 64	2002	UNODC Estimate		
Uruguay	0.2	12 - 65	2006	Government source	HHS	c, e
Venezuela	0.2	15 - 64	2001	UNODC Estimate		

Method: HHS=Household survey, SS=School survey, A=Adjusted from other sources, I=Indirect estimates, R=Registry. * approximate estimates

UNODC Adjustments: a=adjusted for age (15-64), b=population-based/household-type study/survey, c=adjusted from a limited geographic population-based study/survey, d=adjusted from school/youth survey, e=adjusted from lifetime/monthly prevalence adjusted to annual prevalence, f=adjusted from specialized population surveys (including Rapid Assessments), g=adjusted from treatment data, h=adjusted from drug registries, i=adjusted from HIV, problematic drug users (only for heroin), j=lifetime prevalence reported, z=figures may also include other non-ATS stimulants

The 'Method' and 'UNODC Adj.' columns have been completed only for more recent data included in the present issue of the World Drug Report.

ECSTASY

Annual Prevalence of Use as a percentage of the population aged 15-64 (unless otherwise indicated)

Country or Territory	Prevalence	Ages	Year	Source (original)	Method	UNODC Adjusted
ASIA						
Central Asia and Transcaucasian countries						
Armenia	0.1	15 - 64	2005	UNODC Estimate	HHS	b
Azerbaijan				No recent, reliable estimate located		
Georgia	0.7 - 2.4	15 - 64	2007	ARQ	SS	d, e
Kazakhstan				No recent, reliable estimate located		
Kyrgyzstan				No recent, reliable estimate located		
Tajikistan				No recent, reliable estimate located		
Turkmenistan				No recent, reliable estimate located		
Uzbekistan				No recent, reliable estimate located		
East and South-East Asia						
Brunei Darussalam				No recent, reliable estimate located		
Cambodia	0.1	15 - 64	2003	UNODC Estimate		
China				No recent, reliable estimate located		
Hong Kong SAR, China				No recent, reliable estimate located		
Indonesia	0.3	15 - 64	2005	Government source		e
Japan				No recent, reliable estimate located		
Korea, DPR				No recent, reliable estimate located		
Korea, Rep.	<0.1	15 - 64	2004	ARQ	HHS	c, e
Lao PDR				No recent, reliable estimate located		
Macau SAR, China	0.3	15 - 64	2002	UNODC Estimate		c, e
Malaysia	0.4	15 - 64	2003	UNODC Estimate		e, g
Mongolia				No recent, reliable estimate located		
Myanmar				No recent, reliable estimate located		
Philippines	0.2	15 - 64	2004	Government source	HHS	b
Singapore				No recent, reliable estimate located		
Taiwan, Prov. of China	0.5	15 - 64	2005	AMCEWG		a
Thailand	0.3	12 - 65	2007	ARQ	HHS	b
Timor-Leste				No recent, reliable estimate located		
Viet Nam	0.2	15 - 64	2003	UNODC Estimate		
Near and Middle East /South-West Asia						
Afghanistan				No recent, reliable estimate located		
Bahrain				No recent, reliable estimate located		
Iran				No recent, reliable estimate located		
Iraq				No recent, reliable estimate located		
Israel	0.7	18 - 40	2005	ARQ	HHS	
Jordan				No recent, reliable estimate located		
Kuwait				No recent, reliable estimate located		
Lebanon	0.5	15 - 64	2001	UNODC Estimate		d, e
Oman				No recent, reliable estimate located		
Pakistan				No recent, reliable estimate located		
Palestinian Territory				No recent, reliable estimate located		
Qatar				No recent, reliable estimate located		
Saudi Arabia				No recent, reliable estimate located		
Syria				No recent, reliable estimate located		
United Arab Emirates				No recent, reliable estimate located		
Yemen				No recent, reliable estimate located		
South Asia						
Bangladesh				No recent, reliable estimate located		
Bhutan				No recent, reliable estimate located		
India				No recent, reliable estimate located		
Maldives				No recent, reliable estimate located		
Nepal				No recent, reliable estimate located		
Sri Lanka				No recent, reliable estimate located		

Method: HHS=Household survey, SS=School survey, A=Adjusted from other sources, I=Indirect estimates, R=Registry. * approximate estimates

UNODC Adjustments: a=adjusted for age (15-64), b=population-based/household-type study/survey, c=adjusted from a limited geographic population-based study/survey, d=adjusted from school/youth survey, e=adjusted from lifetime/monthly prevalence adjusted to annual prevalence, f=adjusted from specialized population surveys (including Rapid Assessments), g=adjusted from treatment data, h=adjusted from drug registries, i=adjusted from HIV, problematic drug users (only for heroin), j=lifetime prevalence reported, z=figures may also include other non-ATS stimulants

The 'Method' and 'UNODC Adj.' columns have been completed only for more recent data included in the present issue of the World Drug Report.

ECSTASY

Annual Prevalence of Use as a percentage of the population aged 15-64 (unless otherwise indicated)

Country or Territory	Prevalence	Ages	Year	Source (original)	Method	UNODC Adjusted
EUROPE						
East Europe						
Belarus	0.3	15 - 64	2007	ESPAD	SS	c, d, e
Moldova, Rep.				No recent, reliable estimate located		
Russian Federation*	0.7	15 - 64	2007	ESPAD	SS	d, e
Ukraine	0.7	15 - 64	2007	ESPAD	SS	d, e
Southeast Europe						
Albania	<0.1	15 - 64	2004	ARQ		
Bosnia & Herzegovina				No recent, reliable estimate located		
Bulgaria	0.7	15 - 64	2007	ARQ	HHS	c
Croatia	0.8	15 - 64	2007	ESPAD	SS	d, e
Macedonia, FYR	0.1	15 - 64	1999	UNODC Estimate		d
Montenegro				No recent, reliable estimate located		
Romania	0.1	15 - 64	2004	UNODC Estimate		e
Serbia				No recent, reliable estimate located		
Turkey	0.3	15 - 64	2003	UNODC Estimate		
West & Central Europe						
Andorra				No recent, reliable estimate located		
Austria	0.5	15 - 64	2008	Govt.	HHS	a
Belgium	1.1	15 - 64	2007	ESPAD	SS	c, d, e
Cyprus	1.0	15 - 65	2006	ARQ		
Czech Rep.	3.5	15 - 64	2004	ARQ		
Denmark	0.3	16 - 64	2005	EMCDDA		
England & Wales	1.5	16 - 59	2008	Government source	HHS	
Estonia	1.7	15 - 64	2003	ARQ	HHS	
Finland	0.5	15 - 64	2004	ARQ		
France	0.5	15 - 64	2005	ARQ		
Germany	0.4	18 - 64	2006	Government source	HHS	
Greece	0.2	15 - 64	2004	ARQ		
Hungary	0.5	18 - 64	2007	ARQ		
Iceland	0.5	15 - 64	2007	ESPAD	SS	d, e
Ireland	1.2	15 - 64	2007	Government source		
Italy	0.7	15 - 64	2007	Government source/ ESPAD	HHS, SS	d, e
Latvia	1.5	15 - 64	2007	ARQ		
Liechtenstein	0.5	15 - 64	2005	UNODC Estimate		
Lithuania	0.4	15 - 64	2004	ARQ	HHS	b, c
Luxembourg	0.5	15 - 65	1998	UNODC Estimate		e
Malta	0.9	18 - 65	2007	ESPAD	SS	d, e
Monaco	0.9	18 - 66	2007	ESPAD	SS	d, e
Netherlands	1.2	15 - 64	2005	ARQ		
Northern Ireland	1.8	15 - 64	2007	Government source	HHS	
Norway	0.5	15 - 64	2004	ARQ		
Poland	0.3	15 - 64	2006	ARQ		
Portugal	0.4	15 - 64	2007	ARQ		
San Marino				No recent, reliable estimate located		
Scotland	3.2	16 - 59	2006	Government source	HHS	
Slovakia	1.2	15 - 64	2004	ARQ		
Slovenia	0.7	15 - 64	2007	ESPAD	SS	d, e
Spain	1.1	15 - 64	2007	Government source	HHS	
Sweden	0.2 - 0.3	15 - 64	2007	ESPAD	SS	d, e
Switzerland	0.3 - 0.4	15 - 64	2007	ESPAD	SS	d, e
OCEANIA						
Oceania						
Australia	4.2	15 - 64	2007	Government source/ NGO/Academic research	HHS	

Method: HHS=Household survey, SS=School survey, A=Adjusted from other sources, I=Indirect estimates, R=Registry. * approximate estimates

UNODC Adjustments: a=adjusted for age (15-64), b=population-based/household-type study/survey, c=adjusted from a limited geographic population-based study/survey, d=adjusted from school/youth survey, e=adjusted from lifetime/monthly prevalence adjusted to annual prevalence, f=adjusted from specialized population surveys (including Rapid Assessments), g=adjusted from treatment data, h=adjusted from drug registries, i=adjusted from HIV, problematic drug users (only for heroin), j=lifetime prevalence reported, z=figures may also include other non-ATS stimulants

The 'Method' and 'UNODC Adj.' columns have been completed only for more recent data included in the present issue of the World Drug Report.

ECSTASY

Annual Prevalence of Use as a percentage of the population aged 15-64 (unless otherwise indicated)

Country or Territory	Prevalence	Ages	Year	Source (original)	Method	UNODC Adjusted
Christmas Isl.				No recent, reliable estimate located		
Cocos (Keeling) Isl.				No recent, reliable estimate located		
Cook Isl.				No recent, reliable estimate located		
Fiji				No recent, reliable estimate located		
French Polynesia				No recent, reliable estimate located		
Kiribati				No recent, reliable estimate located		
Micronesia				No recent, reliable estimate located		
Nauru				No recent, reliable estimate located		
New Caledonia				No recent, reliable estimate located		
New Zealand	2.6	15 - 64	2006	ARQ	HHS	a, z
Norfolk Isl.				No recent, reliable estimate located		
Papua New Guinea				No recent, reliable estimate located		
Samoa				No recent, reliable estimate located		
Solomon Isl.				No recent, reliable estimate located		
Tonga				No recent, reliable estimate located		
Tuvalu				No recent, reliable estimate located		
Vanuatu				No recent, reliable estimate located		

Method: HHS=Household survey, SS=School survey, A=Adjusted from other sources, I=Indirect estimates, R=Registry. * approximate estimates

UNODC Adjustments: a=adjusted for age (15-64), b=population-based/household-type study/survey, c=adjusted from a limited geographic population-based study/survey, d=adjusted from school/youth survey, e=adjusted from lifetime/monthly prevalence adjusted to annual prevalence, f=adjusted from specialized population surveys (including Rapid Assessments), g=adjusted from treatment data, h=adjusted from drug registries, i=adjusted from HIV, problematic drug users (only for heroin), j=lifetime prevalence reported, z=figures may also include other non-ATS stimulants

The 'Method' and 'UNODC Adj.' columns have been completed only for more recent data included in the present issue of the World Drug Report.

3.5.2 Treatment demand

3.5.2.1 Primary drugs of abuse among persons treated for drug problems in Africa

			Distribution of main drugs in percentages*									
Country/ Territory	Source	Treatment Year	Cannabis	Opiates	Cocaine	Amphetamine - type Stimulants	Methaqualone	Depressants	Inhalants	Khat	Treatment Provided ***	Data Primarily Reflect
Algeria	ARQ	1999/ 2006***	81.3 %	6.6 %	0.2 %	-	-	-	2.1 %	-	1,436	
Botswana	SENDU/	2003/ 2006**	100.0 %								311	
Burkina Faso	ARQ	2006	60.0 %	4.0 %	2.7 %	28.0 %	-	-	5.3 %	-	75	
Cameroon	RAS (1)	1995	48.5 %	12.1 %	13.6 %	-	-	-	36.4 %	-		d
Cape Verde	ARQ	2006									57	
Central African Rep.	ARQ	2006	100.0 %								58	
Chad	ARQ	1996	50.6 %	-	0.2 %	18.8 %	-	-	6.3 %	-	16	
Congo	ARQ	1995	100.0 %								41	
Côte d'Ivoire	ARQ	1998	91.0 %	4.1 %	3.0 %	-	-	-	-	-		
Egypt	ARQ	2007	50.1 %	42.7 %	-	7.2 %	-	-	-	-	129,850	a
Eritrea	ARQ	2006	38.5 %	11.5 %	7.7 %	-	-	-	42.3 %	-	26	a
Ethiopia	ARQ	2006	18.8 %	18.8 %	-	-	-	-	-	62.5 %	64	h
Ghana	GAP	2005	84.5 %	0.4 %	1.0 %	-	-	-	-	-	1,531	
Kenya	Univ. (2)	2005	36.3 %	37.8 %	9.7 %	0.5 %	-	0.5 %	1.2 %	11.4 %	402	
Lesotho	SENDU	2004	100.0 %								54	d
Madagascar	ARQ	2007	60.8 %	-	-	-	-	39.2 %	-	-	148	a
Malawi	SENDU	2004	100.0 %								796	
Mauritius	ARQ	2007	10.0 %	90.0 %	-	-	-	-	0.5 %	-	1,235	
Mozambique	SENDU	2004	33.3 %	54.7 %	11.4 %	-	-	-	-	-	150	a
Namibia	ARQ	2005/ 2006***	2.4 %	2.4 %	24.4 %	9.8 %	61.0 %	-	-	-	238	
Niger	ARQ	2006	69.2 %	-	-	30.8 %	-	-	-	-	168	
Nigeria	Govt.	2004	89.7 %	1.2 %	0.7 %	2.0 %	-	3.9 %	3.7 %	-	925	
Sao Tome & Principe	ARQ	1997	22.2 %	5.5 %	72.2 %	-	-	-	-	-		a, e
Senegal	GAP	2005	78.0 %	1.0 %	2.0 %	1.0 %	-	-	11.0 %	-	202	a
Seychelles	ARQ	2007	55.0 %	45.0 %	-	-	-	-	-	-	149	a, d
Sierra Leone	ARQ	1997	96.8 %	-	0.6 %	-	-	-	-	-	2,067	b, c
South Africa	ARQ	2006	33.8 %	20.3 %	17.3 %	24.4 %	4.2 %	-	-	-	9,813	b
Swaziland	SENDU	2004	92.2 %	0.9 %	0.9 %	-	4.7 %	0.9 %	-	-	128	
Tanzania	SENDU	2004	62.7 %	32.7 %	-	-	-	-	-	-	340	
Togo	ARQ	2002	56.2 %	4.3 %	4.9 %	-	-	-	34.6 %	-	162	e
Tunisia	ARQ	2007									519	f
Zambia	ARQ	2005									233	
Total											151,194	
Average (unweighted)			62.8 %	16.5 %	7.2 %	5.1 %	2.9 %	1.9 %	6.0 %	3.1 %		

* Note that treatment definitions and reporting differ from country to country; totals which exceed 100% represent poly-drug use reporting.
** Figures may reflect number of persons or treatment episodes depending on Member State; figures exclude alcohol and nicotine.
*** The second year specified is for the number of people treated (last column).
(1) Proxy: drugs locally consumed, based on key informants from social services (health affairs), from traditional healers, and repression.
(2) Proxy: cohort of abusers identified from rehabilitation centres, treatment centres, hospitals, streets, and drug dens within 5 urban areas.

Sources: UNODC, Annual Reports Questionnaires (ARQ) and Field Office (FO) data, Southern African Development Community Epidemiology Network on Drug Use (SENDU), International Psychology Reporter, UNODC Global Assessment Programme on Drug Abuse (GAP)

Data primarily reflect (codes)
a Geographically limited reporting (eg the Capital city)
b Publicly funded treatment
c NGO/ privately funded treatment
d Inpatient/ hospitalization modality
e Outpatient modality
f Limited subpopulation (eg prison, youth, etc)
g Opioid substitution treatment (eg methadone)
h First-time treatment entrants (not returning clients)
i Treatment admissions (not persons)

3.5.2.1 Primary drugs of abuse among persons treated for drug problems in America

					Cocaine Group				Amphetamine-type stimulants					
Country/ Territory	Sources	Treatment Year	Cannabis	Opiates	Sum of all Cocaine	Cocaine	Basuco	Crack	Amphetamines	Ecstasy	Inhalants	Tranquilizers	Treatment Provided **	Data Primarily Reflect
Argentina	ARQ	2006-07	40.2%	0.5%	51.2%	51.2%	*14.0%*		0.5%	0.4%	7.3%		2,434	a
Bahamas	ARQ	2005	59.7%		40.3%	40.3%							647	b, d, e
Barbados	SIDUC/ARQ	1998/ 2006***	27.8%		72.3%	5.6%		66.7%					111	
Bolivia	SIDUC/ARQ	1998/ 2005***	14.7%		54.9%	23.1%	31.8%		1.4%		23.5%		14,396	
Brazil	ARQ	2005											850,000	
Canada	CAMH/ DATIS (Ontario)	2008	30.7%	15.9%	40.4%	40.4%			2.8%	3.3%	0.6%	3.6%	66,062	a (Ontario)
Chile	ARQ	2007	20.2%	0.1%	73.3%	73.3%			2.7%	3.40%		4.4%	7,750	d, e
Colombia	SIDUC	1998	13.4%		56.3%	28.1%	28.2%		3.6%		4.8%			
Costa Rica	ARQ	2007	31.2%	0.1%	62.4%	62.4%			1.4%		5.0%		14,899	d, e
Dominican Rep.	ARQ	2007	18.2%	5.9%	75.1%	40.0%		35.1%	0.1%	0.7%			7,590	d, e
Ecuador	ARQ	2007	39.9%	4.2%	55.5%	55.5%			0.4%				3,550	d, e
El Salvador	ARQ	2004/ 2006***	13.8%		63.8%	17.2%		46.6%					10,720	d, e
Grenada	ARQ	2007	60.0%		40.0%	40.0%							250	a
Guatemala	ARQ	2007			36.8%	36.8%			42.1%	21.1%			3,000	d, e
Haiti	ARQ/ Govt.	2002/ 2007***	35.4%	2.1%	37.5%	37.5%						6.3%	27	
Honduras	SIDUC/ ARQ	1998/ 2006***	34.4%		9.0%	3.1%		5.9%			9.0%		7,500	
Jamaica	ARQ	2007	53.3%		43.0%	43.0%							349	a
Mexico	ARQ	2006	12.6%	16.7%	37.1%	37.1%			26.2%		7.5%		41,005	b
Nicaragua	SIDUC/ Govt.	1998/ 2004***	7.3%		77.3%	14.5%		62.8%			12.7%		1,502	d, e
Panama	SIDUC/ Govt.	1998/ 2006***	5.1%		49.4%	48.9%	0.5%				0.5%		992	d, e
Peru	ARQ	2005/ 2006***	31.1%	0.3%	67.0%	67.0%			0.3%			1.4%	35,482	a
St. Lucia	ARQ	2005	17.5%		82.5%	82.5%							40	d
St. Vincent & Grenadines	ARQ/ Govt.	2004/ 2005***	75.3%		24.7%	24.7%							196	d
Trinidad & Tobago	ARQ/ Govt.	2006/ 2006***	48.8%		51.1%	51.1%							861	d, e
Uruguay	SIDUC/ ARQ	1998/ 2006***	12.2%		46.4%	46.4%			0.6%		9.2%		9,159	a
USA	Govt. (TEDS)	2006	26.7%	29.5%	23.0%	23.0%			14.4%		0.1%	0.7%	1,406,000	b (TEDS)
Venezuela	ARQ/ Govt.	2007	70.1%	0.4%	27.6%	19.2%	4.5%	3.9%	0.2%	0.1%	1.1%	0.6%	1,992	a, b, c
Total													**2,486,514**	
Total North America			23.3%	20.7%	33.5%				14.5%	3.3%	2.7%	2.2%	1,513,067	
Total South America			33.2%	1.7%	52.1%				4.8%	5.1%	8.1%	3.2%	973,447	
Average (unweighted)			**32.0%**	**6.9%**	**49.9%**				**6.9%**	**4.8%**	**6.8%**	**2.8%**		

* Note that treatment definitions and reporting differ from country to country; totals which exceed 100% represent poly-drug use reporting.
** Figures may reflect number of persons or treatment episodes depending on Member State; figures exclude alcohol and nicotine.
*** The second year specified is for the number of people treated (last column).

Sources: UNODC Annual Reports Questionnaires data (ARQ); SIDUC, Treatment Centres Data 1998, Drug of impact; SIDUC 1997 Report; Substance Abuse and Mental Health Services Administration (SAMHSA), Treatment episode dataset TEDS, USA; Canadian Community Epidemiology Network on Drug Use (CCENDU), Morbidity Statistics 2000/2001 (separations related to illicit drug use)

Data primarily reflect (codes)
a Geographically limited reporting (eg the Capital city)
b Publicly funded treatment
c NGO/ privately funded treatment
d Inpatient/ hospitalization modality
e Outpatient modality
f Limited subpopulation (eg prison, youth, etc)
g Opioid substitution treatment (eg methadone)
h First-time treatment entrants (not returning clients)
i Treatment admissions (not persons)

3.5.2.1 Primary drugs of abuse among persons treated for drug problems in Asia

			Distribution of main drug in percentages*								
						Amphetamine-type stimulants					
Country/ Territory	Source	Treatment Year	Cannabis	Opiates	Cocaine	Amphetamines-Group	Ecstasy-Group	Inhalants	Sedatives	Treatment Provided **	Data Primarily Reflect
Afghanistan	ARQ	2007								7,660	a
Armenia	ARQ	2006/ 2007***	-	98.5%	1.5%	-	-	-	-	122	d
Azerbaijan	ARQ / UNODC Est.	2003	20.0%	75.0%	-	-	-	5.0%	-		
Bahrain	ARQ	1998	-	100.0%	-	-	-	-	-	1,488	f
Bangladesh	ARQ	2007	17.1%	82.9%	-	-	-	-	-	1,377	a
Brunei Darussalam	UNODC FO (DAINAP)/ARQ	2007	-	-	-	100.0%	-	-	-	59	
China	UNODC FO (DAINAP)/ARQ	2004	-	90.0%	-	0.6%	6.2%	-	3.3%	105,151	
Cambodia	Govt./ UNODC	2007	0.5%	0.1%	-	81.0%	0.3%	9.7%	0.3%	1,719	f
Georgia	ARQ	2007		77.9%						1,092	d, e
Hong Kong SAR, China	Govt/ARQ	2004/ 2007***	4.2%	72.5%	-	3.9%	-	-	-	10,893	d, e
India	ARQ	2004/ 2005	15.5%	61.3%	1.5%	0.2%		0.9%	4.1%	81,802	d, e
Indonesia	ARQ	2006	0.7%	97.2%	-	1.8%	-	-	0.3%	3,777	d, e
Iran	Govt.	2008	1.7%	83.4%	0.2%	2.6%	0.1%	-	-	587,109	
Israel	ARQ	2007								13,000	
Japan	Govt.	2005	2.3%	-	-	55.1%	-	14.5%	-	975	d
Jordan	ARQ	1999	-	21.4%	-	45.2%	-	6%	-	85	
Kazakhstan	ARQ	2007	2.2%	94.7%	-	0.1%	-	3.1%	-	9,728	d, e
Kuwait	ARQ	2005	28.8%	31.1%	4.0%	19.1%		1.0%	16.0%	908	d, f
Kyrgyzstan	ARQ	2007	19.4%	77.3%	-	-	-	-	-	879	d, e
Lao PDR	ARQ	2007		92.2%	-	7.7%	-	-	-	2,423	
Lebanon	ARQ / UNODC Est.	2004/ 2006***	32.0%	57.0%	4.0%	0.5%		-	6.0%	1,124	d
Macau SAR, China	ARQ	2006	-	84.8%	-	-	2.6%	-	1.5%	358	d, e
Malaysia	AMCEWG/ ARQ	2005/ 2007***	15.4%	68.3%	-	12.8%	1.2%	-	-	7,135	b
Maldives	ARQ	2003	13.0%	87.0%	-	-	-	-	-	126	d, e
Mongolia	ARQ	2001	28.6%	71.4%	-	-	-	-	-	7	
Myanmar	UNODC FO (DAINAP)/ ARQ	2007/ 2007***	5.9%	91.7%	-	2.4%	-	-	-	1,246	b, f
Nepal	AMCEWG/ARQ	1994/ 2006***	5.4%	87.2%	-	-	-	-	-	900	a
Oman	ARQ	2002	-	100.0%	-	-	-	-	-	7	f
Pakistan	ARQ	2004	37.0%	49.0%	-	-	-	-	-	4,000	a
Philippines	UNODC FO (DAINAP)	2007	33.1%	-	-	59.8%	1.4%	5.0%	0.6%	4,287	
Qatar	ARQ	1997/ 2007***	5.1%	25.4%	-	1.7%	-	10.2%	-	94	a, d
Korea, Rep.	ARQ	2007	2.7%	0.5%	0.5%	82.8%	0.5%			355	d
Saudi Arabia	Govt./ Univ.	2005-06	55.8%	7.5%	-	72.8%	-	0.7%	5.5%	1,059	a, d
Singapore	UNODC FO (DAINAP)	2007	2.0%	56.3%	-	13.1%	6.9%	-	21.6%	504	d, e
Syria	ARQ	2006	0.2%	94.9%	0.9%	-	-	-	4.1%	674	
Sri Lanka	ARQ	2007	-	100.0%	-	-	-	-	-	3,413	f
Taiwan, Prov. of China	NBCD Taiwan (POC) Health	2007	0.1%	69.9%	0.1%	25.1%	0.5%	0.3%	2.8%	18,776	d
Tajikistan	ARQ	2004/ 2007***	-	99.2%	-	-	-	-	-	589	a, d
Thailand	UNODC FO (DAINAP)	2007	9.9%	4.7%	0.04%	79.8%	1.0%	4.6%	-	58,030	d, e
Turkmenistan	ARQ	2007	3.3%	96.7%	-	-	-	-	-	28,720	d, e
United Arab Emirates	ARQ	2006								22	
Uzbekistan	ARQ	2004/ 2007***	16.8%	78.8%	-	-	-	0.9%	0.6%	6,676	b
Viet Nam	AMCEWG/ ARQ	2001/ 2007***	-	98.0%	-	2.0%	-	-	-	63,000	
Total										**449,700**	
Average (unweighted)			**10.0%**	**64.6%**	**0.3%**	**17.2%**	**0.6%**	**1.5%**	**1.8%**		

3.5.2.1 Primary drugs of abuse among persons treated for drug problems in Europe

Country/ Territory	Source	Treatment Year	Cannabis	Opiates	Cocaine	Amphetamine-type stimulants		Hallucinogens	Hypnotics and Sedatives	Inhalants/ Solvents	Treatment Provided **	Data Primarily Reflect
						Amphetamines	Ecstasy					
Albania	ARQ	2006	11.5%	82.9%	5.7%						2,140	d, e
Andorra	ARQ	2007									419	
Austria	EMCDDA	2006	20.7%	65.8%	6.3%						5,603	d, e
Belarus	ARQ	2007	15.2%	63.2%	0.05%	3.6%		1.2%	3.0%	12.3%	2,532	d
Belgium	ARQ	2004	20.0%	44.2%	13.0%	11.8%	1.7%				3,662	
Bosnia & Herzegovina	ARQ	2007	48.3%	48.3%	0.7%	1.7%	1.0%				653	a
Bulgaria	ARQ	2006	0.8 %	98.5%	0.1%	0.5%			0.1 %		2,185	a
Croatia	ARQ	2007	13.5 %	77.7%	2.0%	3.2%	1.6%		2.0 %		7,464	b, d, e
Cyprus	ARQ	2007	27.8 %	56.7%	13.3 %		1.4 %		0.8 %		720	a
Czech Rep.	ARQ	2006	12.7 %	25.5%	0.1%	58.6 %	0.1 %	0.7 %	0.7 %	1.5 %	8,164	d, e
Denmark	ARQ	2006	30.4%	53.4%	5.8%	7.9%	1.1%	0.1%	1.4 %		5,426	b, d, e
Estonia	EMCDDA	2005		82.0%		5.8%					1,339	
Finland	EMCDDA	2007	12.2%	56.1%		23.2%					4,865	a
France	ARQ	2006	36.5%	49.4%	7.5%	0.3%	1.1%				79,600	b
Germany	EMCDDA/ ARQ	2006/ 2006***	29.6%	49.8%	6.9%	6.2%		0.2%			42,638	e
Greece	ARQ	2006	7.6%	87.7%	2.6%		0.1%		1.2 %		4,508	b, e
Macedonia, FYR	ARQ	2005	1.3%	98.7%							902	a, d, e
Hungary	ARQ	2007	39.9 %	18.6%	1.9%	5.8%	2.1 %		31.7 %		13,457	a, d, e
Iceland	ARQ	2007	33.3 %	2.8%	16.7%	38.9 %	11.1 %				1,800	a
Ireland	Govt.	2006	20.4%	63.9%	10.7%	0.6%	1.8%		1.8 %	0.4 %	12,744	b
Italy	ARQ	2006	9.6%	72.3%	14.0%	0.2%	0.5%		0.6 %		171,353	b
Latvia	ARQ	2007	7.3 %	70.7%	0.4%	16.7 %				4.9 %	635	d
Liechtenstein	ARQ	2006	81.3 %		15.6%	3.1 %					32	
Lithuania	ARQ	2007	0.5 %	80.8%	0.2%	2.6 %		0.1 %	1.1 %	2.6 %	5,715	d
Luxembourg	ARQ/ EMCDDA	2003/ 2006***	*8.0%*	*76.0%*	*11.0%*						1,901	e, d
Malta	EMCDDA	2006	12.0 %	76.0%	8.0%		3.0 %		0.2 %		2,121	e
Moldova	ARQ/ UNODC	2004/ 2006****	51.8 %	39.1%		3.8 %					5,327	
Netherlands	ARQ	2006	21.3%	42.8%	31.2%	3.9%	0.7%				30,766	e
Northern Ireland	Govt.	2007-08	35.4%	12.1%	10.1%		4.0%		31.3 %		1,984	a
Norway	Focal Point EMCDDA	2004	14.0 %	52.0%	1.0 %	15.0 %	0.1 %				3,003	i
Poland	ARQ/ UNODC	2003/ 2006***	3.0 %	23.3%	0.9%	8.9 %		0.6 %	10.1 %	2.7 %	13,198	d
Portugal	ARQ/ Focal Point EMCDDA	2004/ 2007***	5.0%	63.0%	25.0%				1.0 %		34,266	d, e
Romania	ARQ	2007	6.3 %	93.0%	0.5%	0.2 %					1,893	d
Russian Federation	UNODC	2006/ 2007***	6.0 %	89.0%	0.06%	1.0 %					356,188	b
Scotland	Govt.	2007-08	13.5 %	68.6%	7.2%	2.1 %	0.9 %		5.4 %		12,562	a
Slovakia	ARQ	2007	19.9 %	51.1%	1.3%	26.8 %	1.0 %				1,927	d, e
Slovenia	EMCDDA	2004	7.0 %	91.1%	1.3%	0.1 %	0.2 %				3,000	e
Spain	ARQ	2007	10.9%	39.3%	46.9%	0.8%	0.5%	0.1%	1.2 %		50,630	d, e
Sweden	ARQ	2006	19.8%	28.0%	3.1%	40.6%	0.2%		8.3 %		6,962	d, e
Switzerland	Govt./ ARQ	2003/ 2007***	14.2 %	43.9%	25.4%	0.5 %	0.8 %	0.3 %	3.0 %		20,000	d, e
Turkey	ARQ	2006	37.6 %	41.9%	3.8%	0.04 %	3.9 %		2.1 %	10.6 %	2,853	d
Ukraine	ARQ	2006		100.0%							41,208	
England & Wales	Govt.	2006-07	12.6%	68.9%	11.1%	3.0%	0.5%	0.1 %	1.1 %	0.3 %	195,464	a, d, e
Total Europe											**1,163,809**	
Total East Europe											470,780	
Total West Europe											693,029	
Average (unweighted) Europe			**19.5%**	**59.7%**	**8.4%**	**9.3%**	**1.6%**	**0.4%**	**5.1%**	**4.4%**		
Average (unweighted) East Europe			16.6%	67.1%	1.3%	8.7%	1.4%	0.7%	6.4%	5.8%		
Average (unweighted) West Europe			21.6%	53.3%	13.3%	9.9%	1.7%	0.2%	4.4%	0.4%		

3.5.2.1 Primary drugs of abuse among persons treated for drug problems in Oceania

			Distribution of main drugs in percentages*								
						Amphetamine-type stimulants					
Country/ Territory	Source	Treatment Year	Cannabis	Opiates	Cocaine	Amphetamines	Ecstasy	Hallucinogens	Sedatives	Treatment Provided **	Data Primarily Reflect
Australia	Govt.	2006/2007***	40.7%	21.8%	0.6%	22.0%	1.3%		3.0%	78,545	b
New Zealand	ARQ	2005/2007****	53.2%	30.8%	0.2%	15.0%		0.9%		20,000	b
Total										98,545	
Average (unweighted)			**47.0%**	**26.3%**	**0.4%**	**18.5%**	**1.3%**		**3.0%**		

* Note that treatment definitions and reporting differ from country to country; totals which exceed 100% represent poly-drug use repo
** Figures may reflect number of persons or treatment episodes depending on Member State; figures exclude alcohol and nicotine.
*** Data for Australia refer to closed drug related treatment episodes over the July 2006-June 2007 period.
**** The second year specified is for the number of people treated (last column).
Source: UNODC, Annual Reports Questionnaire (ARQ) data

Data primarily reflect (codes)
a Geographically limited reporting (eg the Capital city)
b Publicly funded treatment
c NGO/ privately funded treatment
d Inpatient/ hospitalization modality
e Outpatient modality
f Limited subpopulation (eg prison, youth, etc)
g Opioid substitution treatment (eg methadone)
h First-time treatment entrants (not returning clients)
i Treatment admissions (not persons)

3.6 Youth and school surveys

3.6.1 Heroin

HEROIN
use amongst young people (ordered alphabetically by regions)

				Life-time	Annual	Last month			
Region	Subregion	Country/ Territory	Coverage (age/grade)	% of young people who ever used	% of young people who used at least once in the past year	% of young people who used at least once in the past month	Year of Estimate	Source	Notes
AFRICA	**East Africa**	Mauritius	14 - 18	1.2			2004	ARQ	
AFRICA	**Southern Africa**	South Africa	13 - 17	2.2	1		2006	ARQ	Select regions (Cape Town)
AMERICAS	**Caribbean**	Antigua & Barbuda	Secondary/ High School	0.9			2005	OAS (MEM)	
		Bahamas	10 - 19	1	0.4		2003	ARQ	
		Barbados	12 - 18	1.3	0.7		2002	ARQ	
		Barbados	Students (ages 13, 15, and 17)	1			2006	OAS (MEM)	
		Dominica	Students (ages 13, 15, and 17)	0.3			2006	OAS (MEM)	
		Haiti	15 - 16	3	1.9		2005	ARQ	
		Jamaica	Ages 11 - 19	1.7			2006	OAS	
		St. Vincent & Grenadines	Students (ages 13, 15, and 17)	0.2			2006	OAS (MEM)	
		Trinidad & Tobago	11 - 24	0.6	0.3		2002	ARQ	
AMERICAS	**Central America**	Belize	10 - 25	0.1			1998	ARQ	
		El Salvador	13 - 17	0.4	0.2		2003	ARQ	
		Guatemala	12 - 19	0.28	0.08		2004	ARQ	
		Honduras	12 - 17		0.18		2005	ARQ	
		Panama	13 - 15	0.35			1997	ARQ	
AMERICAS	**North America**	Canada	12 - 17	2			2006	ARQ	

		Mexico	12 - 19	0.7	0.4		2006	ARQ	Select regions
		USA	Grade 10	1.5	0.8		2007	ARQ	
AMERICAS	**South America**	Argentina	13 - 17	0.9			2007	ARQ	
		Bolivia		1	0.5		2004	ARQ	
		Colombia	Grades 7, 9 and 11	1.3	1.2		2004	OAS (MEM)	
		Ecuador	12 - 17	0.9	0.5		2005	ARQ	
		Guyana	12 - 18	0.7	0.3	0.2	2002	ARQ	
		Paraguay	Youth (undefined)	0.3			2005	ARQ	Ages not specified
		Peru	Students (ages 13-17)	1			2005	OAS (MEM)	
		Suriname	Secondary/ High School	0.5	0	0	2006	OAS (MEM)	
		Uruguay	13 - 17	0.5	0.3		2003	ARQ	
		Venezuela	10 - 23		0.27		2005	ARQ	
ASIA	**Central Asia and Transcaucasian countries**	Armenia	15 - 16	1			2007	ESPAD	
		Georgia	15 - 16		2		2005	ARQ	
		Kyrgyzstan	15 - 18	1			2001	ARQ	
ASIA	**East and South-East Asia**	Hong Kong SAR, China	11 - 20		0.007		2007	ARQ	
		Macau SAR, China	17 - 25	1.5			2002	ARQ	
		Myanmar	13 - 21	0.2	0.2		2004	ARQ	
		Thailand	13 - 18	0.23			2005	ARQ	
ASIA	**Near and Middle East /South-West Asia**	Israel	12 - 18		1.9		2005	ARQ	
		Jordan	15 - 16		0.9		2001	ARQ	
		Lebanon	15 - 16		0.8		2001	ARQ	
		Oman	15 - 16		3		2002	ARQ	
ASIA	**South Asia**	Bangladesh	10 - 23		0.7		2001	ARQ	
EUROPE	**East Europe**	Belarus	15 - 16	0.1			2007	ARQ	
		Russian Federation	15 - 16		0.4		2007	ARQ	
		Ukraine	15 - 16	0	0		2003	ESPAD	
EUROPE	**Southeast Europe**	Albania	14 - 19	1.8			2004	ARQ	
		Bulgaria	15 - 19	2.2			2007	ARQ	

		Croatia	16 - 16	1.9			2007	ARQ	
		Romania	15 - 16	0			2007	ESPAD	
		Turkey	15 - 16	2	1		2003	ESPAD	
EUROPE	**West & Central Europe**	Austria	15 - 16	1.7			2007	ESPAD	
		Belgium	15 - 16	1			2007	ESPAD	Select regions (Flanders)
		Cyprus	15 - 16	2			2007	ESPAD	
		Czech Rep.	15 - 16	2.0	1.2	0.6	2007	Govt./ ESPAD	Heroin and opiates
		Denmark	15 - 16	0.5			2007	ARQ	
		Estonia	15 - 16	1.3			2007	ARQ	
		Faroe Isl.	15 - 16	1			2007	ESPAD	
		Finland	15 - 16	1			2007	ESPAD	
		France	15 - 16	3			2007	ESPAD	
		Germany	15 - 16	1.1			2007	ARQ	Select regions
		Gibraltar	11 - 18		1.5		2002	ARQ	
		Greece	15 - 16	1			2007	ESPAD	
		Greenland	15 - 16	1	1		2003	ESPAD	
		Hungary	15 - 17	1.6			2007	ARQ	Select regions (Budapest)
		Iceland	15 - 16	1			2007	ESPAD	
		Ireland	15 - 16	1			2007	ESPAD	
		Isle of Man	15 - 16	2	0		2007	ESPAD	
		Italy	15 - 16	3			2007	ESPAD	
		Latvia	15 - 16	1.4			2007	ARQ	
		Liechtenstein	12 - 16	0.2	0.2		2005	ARQ	
		Lithuania	15 - 16	1.1			2007	ESPAD	
		Luxembourg	11 - 17	1.2	0.6		1999	ARQ	
		Malta	15 - 16	1.1			2007	ARQ	
		Monaco	15 - 16	2			2007	ESPAD	
		Netherlands	15 - 16	1			2007	ESPAD	
		Norway	15 - 16	1			2007	ESPAD	
		Poland	15 - 16	1.4	1		2007	ARQ	

		Portugal	15 - 16	2			2007	ESPAD	
		Slovakia	15 - 19	1.5			2007	ARQ	
		Slovenia	15 - 16	2			2007	ESPAD	
		Spain	14 - 18	1	0.8		2007	ARQ	
		Sweden	15 - 16	1			2007	ESPAD	
		Switzerland	15 - 16	1			2007	ESPAD	
		United Kingdom	15 - 16	1			2007	ESPAD	
OCEANIA	**Oceania**	Australia	12 - 17	0.1	0.1		2007	ARQ	

3.6.2 Cocaine

COCAINE (unless otherwise noted) amongst young people (ordered alphabetically by regions)									
Region	Subregion	Country/ Territory	Coverage (a	% of young people who ever used	% of young people who used at least once in the past year	% of young people who used at least once in the past month	Year of Estimate	Source	Notes
AFRICA	**Southern Africa**	South Africa	13 - 17	2.5	1.3		2006	ARQ	Cocaine, any (HCl and/ or Crack); Select regions (Cape Town)
AFRICA	**West and Central Africa**	Ghana	13 - 15		2.9		2007	ARQ	Cocaine, any (HCl and/ or Crack)
AMERICAS	**Caribbean**	Antigua & Barbuda	Secondary/ High School	1.7	1	0.7	2005	OAS (MEM)	Ages not specified
		Antigua & Barbuda	Secondary/ High School	1.7	0.8	0.5	2005	OAS (MEM)	Crack
		Bahamas	10 - 19	1.1	0.6		2003	ARQ	Crack
		Bahamas	10 - 19	1.1	0.3		2003	ARQ	
		Barbados	Students (ages 13, 15, and 17)	2	0.7	0.5	2006	OAS (MEM)	Crack
		Barbados	Students (ages 13, 15, and 17)	2	0.9	0.5	2006	OAS (MEM)	
		Dominica	Students (ages 13, 15, and 17)	0.8	0.6	0.4	2006	OAS (MEM)	Crack
		Dominica	Students (ages 13, 15, and 17)	0.6	0.4	0.3	2006	OAS (MEM)	
		Dominican Rep.	12 - 20	2.7			2000	ARQ	Cocaine, any (HCl and/ or Crack)
		Dominican Rep.	12 - 20	1.5			2000	ARQ	Crack
		Dominican Rep.	12 - 20	1.2			2000	ARQ	
		Grenada	Secondary/ High School	1.5	1	0.5	2005	OAS (MEM)	
		Haiti	15 - 16	2.8	1.6		2005	ARQ	Crack

		Haiti	15 - 16	3.2	2		2005	ARQ	
		Jamaica	Ages 11 - 19	1.7			2006	OAS	Crack
		Jamaica	Ages 11 - 19	3.2	2.1	1.3	2006	OAS	
		St. Lucia	Students (ages 13, 15, and 17)	1.5	0.8	0.5	2005	OAS (MEM)	
		St. Vincent & Grenadines	Students (ages 13, 15, and 17)	0.3	0.2	0.1	2006	OAS (MEM)	Crack
		St. Vincent & Grenadines	Students (ages 13, 15, and 17)	0.6	0.3	0.2	2006	OAS (MEM)	
		Trinidad & Tobago	Students (ages 13, 15, and 17)	0.7			2006	OAS (MEM)	Crack
		Trinidad & Tobago	Students (ages 13, 15, and 17)	0.8			2006	OAS (MEM)	
		Turks & Caicos Isl.	11 - 20		0.8		2002	ARQ	Crack
		Turks & Caicos Isl.	11 - 20	1.7	0.7		2002	ARQ	
AMERICAS	**Central America**	Belize	10 - 25	0.6			1998	ARQ	Crack; Limited geography
		Belize	10 - 25	0.3			1998	ARQ	Limited geography
		Belize	10 - 25	0.7			1998	ARQ	Cocaine, any (HCl and/or Crack); Limited geography
		Costa Rica	Grades 7, 9 and 11 (ages 13 - 17)	1.1	1.1	0.4	2006	OAS (MEM)	Crack
		Costa Rica	Grades 7, 9 and 11 (ages 13 - 17)	1.7	1.1	0.7	2006	OAS (MEM)	
		El Salvador	13 - 17	3.2	1.5		2003	ARQ	Cocaine, any (HCl and/or Crack)
		El Salvador	13 - 17	1.1	0.5		2003	ARQ	Crack
		El Salvador	13 - 17	1.6	0.7		2003	ARQ	Large cities
		Guatemala	12 - 19	0.4	0.1		2004	ARQ	Crack
		Guatemala	12 - 19	1.3	0.5		2004	ARQ	

		Honduras	Secondary/ High School	0.4	0.2	0.1	2005	OAS (MEM)	Crack
		Honduras	12 - 17		0.2		2005	ARQ	Crack
		Honduras	Secondary/ High School	2.1	0.9	0.4	2005	OAS (MEM)	
		Honduras	12 - 17		0.9		2005	ARQ	
		Nicaragua	12 - 18	1.2			2004	ARQ	Crack
		Nicaragua	12 - 18	2.3			2004	ARQ	
AMERICAS	**North America**	Canada	12 - 17	4.4			2006	ARQ	Cocaine, any (HCl and/ or Crack); Limited geography
		Mexico	12 - 19	3.3	1.5		2006	ARQ	Cocaine, any (HCl and/ or Crack); Selecr regions
		Mexico	12 - 19	1.5			2006	ARQ	Crack; Select regions
		USA	Grade 10	5.3	3.4		2007	ARQ	Cocaine, any (HCl and/ or Crack)
		USA	Grade 10	2.3	1.3		2007	ARQ	Crack
		USA	Grade 10	4.8	3.1		2007	ARQ	
AMERICAS	**South America**	Argentina	13 - 17	0.8			2007	ARQ	Crack
		Argentina	13 - 17	4.1	2.5		2007	ARQ	
		Bolivia	13 - 18	0.8	0.4		2004	ARQ	Crack
		Bolivia	15 - 16	1.9	0.9	0.4	2004	CICAD/ OAS	
		Brazil	15 - 16	1.9	1.8	1.2	2005	CICAD/ OAS	Cocaine, includes coca paste
		Chile	Grades 8 - 12	3.0	1.6	0.7	2005	OAS (MEM)	Crack
		Chile	15 - 16	4.3	2.6	1.0	2005	CICAD/ OAS	
		Colombia	15 - 16	2.0	1.7	0.5	2005	CICAD/ OAS	
		Ecuador	12 - 17	0.6			2005	ARQ	Crack
		Ecuador	15 - 16	2.7	1.3	0.6	2005	CICAD/ OAS	
		Guyana	12 - 18	0.5	0.2	0.1	2002	ARQ	Crack; Limited Geography
		Guyana	12 - 18	0.7	0.3	0.1	2002	ARQ	Limited geography
		Paraguay	15 - 16	1.1	0.7	0.5	2005	CICAD/ OAS	
		Paraguay	Students (undefined)	0.3			2005	OAS (MEM)	Crack; Ages not specified

		Peru	Students (ages 13-17)	0.8			2005	OAS (MEM)	Crack
		Peru	15 - 16	1.9	1.2	0.5	2005	CICAD/ OAS	
		Suriname	Secondary/ High School	0.6	0.2	0.1	2006	OAS (MEM)	
		Suriname	Secondary/ High School	0.6	0.3	0	2006	OAS (MEM)	Crack
		Uruguay	13 - 17	5	3.7		2007	ARQ	Limited geography
		Venezuela	10 - 23		0.3		2005	ARQ	Crack
		Venezuela	10 - 23		0.3		2005	ARQ	
ASIA	**Central Asia and Transcaucasian countries**	Armenia	15 - 16	1			2007	ESPAD	
ASIA	**East and South-East Asia**	Hong Kong SAR, China	11 - 20		0.0		2007	ARQ	Cocaine, any (HCl and/ or Crack)
		Thailand	Youth (undefined)	0.3			2003	ARQ	Cocaine, any (HCl and/ or Crack); Ages not specified
ASIA	**Near and Middle East /South-West Asia**	Israel	12 - 18	2.3	2		2005	ARQ	Crack
		Israel	12 - 18	2.5	2.1		2005	ARQ	
		Lebanon	15 - 16		1.2		2001	ARQ	Cocaine, any (HCl and/ or Crack); Rapid Assessment
EUROPE	**East Europe**	Belarus	15 - 16	0.4			2007	ARQ	Cocaine, any (HCl and/ or Crack); Limited geography
		Belarus	15 - 16	0.2			2007	ARQ	Crack; Limited geography
		Belarus	15 - 16	0.2			2007	ARQ	Limited geography
		Russian Federation	15 - 16	1	0.6		2007	ARQ/ ESPAD	Crack
		Russian Federation	15 - 16		0.4		2007	ARQ	
		Ukraine	15 - 16	0			2007	ESPAD	Crack
		Ukraine	15 - 16	1			2007	ESPAD	
EUROPE	**Southeast Europe**	Albania	14 - 19	1.4			2004	ARQ	Cocaine, any (HCl and/ or Crack)
		Albania	14 - 19	1.4			2004	ARQ	
		Bulgaria	15 - 19	5.7			2007	ARQ	Cocaine, any (HCl and/ or Crack)

		Croatia	16	3			2007	ARQ	Cocaine, any (HCl and/ or Crack)
		Croatia	16	2.7			2007	ARQ	Crack
		Romania	15 - 16	0			2007	ESPAD	Crack
		Romania	15 - 16	2			2007	ESPAD	
		Turkey	15 - 16	1.6	0.8		2003	ARQ	Cocaine, any (HCl and/ or Crack)
EUROPE	**West & Central Europe**	Austria	15 - 16	2.5			2007	ESPAD	Crack
		Austria	15 - 16	3.4			2007	ESPAD	
		Belgium	15 - 16	4			2007	ARQ	Select regions (Flanders)
		Belgium	15 - 16	2			2007	ARQ	Crack; Select regions (Flanders)
		Cyprus	15 - 16	2			2007	ESPAD	Crack
		Cyprus	15 - 16	3			2007	ESPAD	
		Czech Rep.	15 - 16	1			2007	ESPAD	Crack
		Czech Rep.	15 - 16	1.0	0.5	0.3	2007	Govt./ ESPAD	
		Denmark	15 - 16	3.2			2007	ARQ	Cocaine, any (HCl and/ or Crack)
		Estonia	15 - 16	2.9			2007	ARQ	Crack
		Estonia	15 - 16	2			2007	ARQ	
		Faroe Isl.	15 - 16	1			2007	ESPAD	Crack
		Faroe Isl.	15 - 16	1			2007	ESPAD	
		Finland	15 - 16	1			2007	ESPAD	Crack
		Finland	15 - 16	1			2007	ESPAD	
		France	15 - 16	6			2007	ESPAD	Crack
		France	15 - 16	5			2007	ESPAD	
		Germany	15 - 16	2.3			2007	ARQ	Crack; Select regions
		Germany	15 - 16	3.5			2007	ARQ	Select regions
		Greece	15 - 16	2			2007	ESPAD	Crack
		Greece	15 - 16	1			2007	ESPAD	
		Greenland	15 - 16	1	1		2003	ESPAD	
		Hungary	15 - 17	1.7			2007	ARQ	Crack; Select regions (Budapest)
		Hungary	15 - 17	2.7			2007	ARQ	Select regions (Budapest)
		Iceland	15 - 16	1			2007	ESPAD	Crack

		Iceland	15 - 16	3			2007	ESPAD	
		Ireland	15 - 16	4			2007	ESPAD	Crack
		Ireland	15 - 16	4			2007	ESPAD	
		Isle of Man	15 - 16	5	10		2007	ESPAD	Crack
		Isle of Man	15 - 16	10			2007	ESPAD	
		Italy	15 - 16	3			2007	ESPAD	Crack
		Italy	15 - 16	5			2007	ESPAD	
		Latvia	15 - 16	1.4			2007	ARQ	Crack
		Latvia	15 - 16	1.6			2007	ARQ	
		Liechtenstein	12 - 16	0.8	0.6		2005	ARQ	Cocaine, any (HCl and/or Crack)
		Lithuania	15 - 16	1.5			2007	ESPAD	Cocaine, any (HCl and/or Crack)
		Lithuania	15 - 16	1.2			2007	ESPAD	Crack
		Luxembourg	15 - 16	1.5	1.5		1999	ARQ	
		Malta	15 - 16	1.9			2007	ARQ	Crack
		Malta	15 - 16	3.7			2007	ARQ	
		Monaco	15 - 16	4			2007	ESPAD	Crack
		Monaco	15 - 16	6			2007	ESPAD	
		Netherlands	15 - 16	2			2007	ESPAD	Crack
		Netherlands	15 - 16	3			2007	ESPAD	
		Norway	15 - 16	1			2007	ESPAD	Crack
		Norway	15 - 16	1			2007	ESPAD	
		Poland	15 - 16	0.9	0.3		2007	ARQ	Crack
		Poland	15 - 16	1.8	1		2007	ARQ	
		Portugal	15 - 16	2			2007	ESPAD	Crack
		Portugal	15 - 16	2			2007	ESPAD	
		Slovakia	15 - 19	2.3			2007	ARQ	Cocaine, any (HCl and/or Crack)
		Slovakia	15 - 19	1.4			2007	ARQ	Crack
		Slovenia	15 - 16	2			2007	ESPAD	Crack
		Slovenia	15 - 16	3			2007	ESPAD	
		Spain	14 - 18	5.7	4.1		2007	ARQ	Cocaine, any (HCl and/or Crack)
		Spain	14 - 18	2.6	1.9		2007	ARQ	Crack
		Spain	14 - 18	5.0	3.6		2007	ARQ	
		Sweden	15 - 16	2			2007	ESPAD	Crack
		Sweden	15 - 16	2			2007	ESPAD	
		Switzerland	15 - 16	2			2007	ESPAD	Crack
		Switzerland	15 - 16	3			2007	ESPAD	
		United Kingdom	15 - 16	3			2007	ESPAD	Crack
		United Kingdom	15 - 16	5			2007	ESPAD	
OCEANIA	**Oceania**	Australia	12 - 17	0.8	0.4		2007	ARQ	Cocaine, any (HCl and/or Crack)

3.6.3 Cannabis

CANNABIS use (unless otherwise noted) amongst young people (ordered alphabetically by regions)									
				Life-time	Annual	Last month			
Region	Subregion	Country/ Territory	Coverage (age/grade)	% of young people who ever used	% of young people who used at least once in the past year	% of young people who used at least once in the past month	Year of Estimate	Source	Notes
AFRICA	East Africa	Ethiopia	Youth (undefined)	11			1999	ARQ	Ages not specified
		Kenya	10 - 24	18.9		10.9	2004	Govt.	Students and non-students
		Madagascar	15 - 19		18.5		2004	ARQ	
		Mauritius	14 - 18	10.9	2.2		2004	ARQ	
		Seychelles	11 - 16		0.31		2001	ARQ	
AFRICA	North Africa	Algeria	15 - 16				2005	ARQ	
		Egypt	15 - 15	18.9			2006	ARQ	
		Morocco	15 - 17	6.6	4.6	2.9	2005	MedSPAD	Select regions (Rabat)
AFRICA	Southern Africa	South Africa	13 - 17	24.8	12.9		2006	ARQ	Select regions (Cape Town)
AFRICA	West and Central Africa	Ghana	13 - 15		17.1		2007	ARQ	
AMERICAS	Caribbean	Antigua & Barbuda	Secondary/ High School	24.9	13.4	8.4	2005	OAS (MEM)	
		Bahamas	10 - 19	14.1	8.3		2003	ARQ	
		Barbados	Students (ages 13, 15, and 17)	17.4	10.6	6	2006	OAS (MEM)	
		Dominica	Students (ages 13, 15, and 17)	29.4	17.9	11.8	2006	OAS (MEM)	
		Dominican Rep.	12 - 20	2.2			2000	ARQ	
		Grenada	Secondary/ High School	27.5	15.9	8.7	2005	OAS (MEM)	
		Haiti	15 - 16	2.6	1.8		2005	ARQ	Cannabis resin
		Haiti	15 - 16	3	1.7		2005	ARQ	
		Jamaica	Ages 11 - 19	25.1	14.6	8.5	2006	OAS	
		St. Lucia	Students (ages 13, 15, and 17)	25.5	15.9	8.8	2005	OAS (MEM)	

		St. Vincent & Grenadines	Students (ages 13, 15, and 17)	17.8	11.7	5.2	2006	OAS (MEM)	
		Trinidad & Tobago	Students (ages 13, 15, and 17)	12.0	6.6	2.8	2006	OAS (MEM)	
		Turks & Caicos Isl.	11 - 20	21.4	14.5		2002	ARQ	
AMERICAS	**Central America**	Belize	10 - 25	7.6			1998	ARQ	Select regions
		Costa Rica	Grades 7, 9 and 11 (ages 13 - 17)	7.4	4.6	2.3	2006	OAS (MEM)	
		El Salvador	13 - 17	4.7	2.6		2003	ARQ	
		Guatemala	12 - 19	2.0	1.0		2004	ARQ	
		Honduras	Secondary/ High School	2.9	1.1	0.4	2005	OAS (MEM)	
		Nicaragua	12 - 18	5.2			2004	ARQ	
AMERICAS	**North America**	Canada	12 - 17	30.2			2006	ARQ	
		Mexico	12 - 19	8.8	5.8		2006	ARQ	Select regions
		USA	Grade 10	31	24.6		2007	ARQ	
AMERICAS	**South America**	Argentina	13 - 17	10.9	7.6		2007	ARQ	
		Bolivia	15 - 16	5.1	2.7	1.2	2004	CICAD/ OAS	
		Brazil	15 - 16	7.7	6.3	4.4	2005	CICAD/ OAS	
		Chile	15 - 16	18.7	14.6	6.3	2005	CICAD/ OAS	
		Colombia	15 - 16	9.6	8.4	3.0	2005	CICAD/ OAS	
		Ecuador	15 - 16	7.5	3.7	1.9	2005	CICAD/ OAS	
		Guyana	12 - 18	6.8	3.5	1.8	2002	ARQ	
		Paraguay	15 - 16	3.9	3.1	1.9	2005	CICAD/ OAS	
		Peru	15 - 16	5.5	3.4	1.7	2005	CICAD/ OAS	
		Suriname	Secondary/ High School	6.8	4.1	2.3	2006	OAS (MEM)	
		Uruguay	13 - 17	19.5	14.8		2007	ARQ	
		Venezuela	10 - 23		1.1		2005	Govt.	
ASIA	**Central Asia and Transcaucasian countries**	Armenia	15 - 16	3			2007	ESPAD	
		Azerbaijan	15 - 16		30		2007	ARQ	
		Georgia	15 - 16		7		2005	ARQ	
		Kazakhstan	15 - 16	4.6	2.7		2007	ARQ	
		Kyrgyzstan	15 - 18	0.3			2001	ARQ	
ASIA	**East and South-East Asia**	Hong Kong SAR, China	11 - 20		0.0		2007	ARQ	
		Japan	13 - 15	0.4			2006	ARQ	
		Korea, Rep.	11 - 12	0.1			2007	ARQ	Select regions
		Macau SAR, China	18 - 25	2.8			2002	ARQ	

		Myanmar	13 - 21	0.9	0.5		2004	ARQ	
		Thailand	Youth (undefined)	4.4			2003	ARQ	Ages not specified
ASIA	**Near and Middle East /South-West Asia**	Israel	12 - 18	7.7	5.8		2005	ARQ	
		Jordan	18 - 25		2.5		2001	ARQ	
		Lebanon	15 - 16		4.4		2001	ARQ	Cannabis resin; Rapid Situation Assessment
ASIA	**South Asia**	Bangladesh	13 - 18	5	3		2001	ARQ	
		India	12 - 18		3		2001	ARQ	
		Nepal	15 - 16	0.1	0.1		(blank)	ARQ	
EUROPE	**East Europe**	Belarus	15 - 16	6.8			2007	ARQ	
		Russian Federation	15 - 16	19	12		2007	ARQ/ ESPAD	
		Ukraine	15 - 16	14			2007	ESPAD	
EUROPE	**Southeast Europe**	Albania	14 - 19	5.5			2004	ARQ	
		Bulgaria	15 - 19	30.3	20.5		2007	ARQ	
		Croatia	16	27.5	20.5		2007	ARQ	
		Romania	15 - 16	4			2007	ESPAD	
		Turkey	15 - 16	4.3	3.3		2003	ARQ	
EUROPE	**West & Central Europe**	Austria	15 - 16	19.3	14.8	6.9	2007	ESPAD	
		Belgium	15 - 16	24			2007	ESPAD	Select regions (Flanders)
		Cyprus	15 - 16	5			2007	ESPAD	
		Czech Rep.	15 - 16	45.1	34.8	18.1	2007	Govt./ ESPAD	
		Denmark	15 - 16	25.5			2007	ARQ	
		Estonia	15 - 16	26.3	19.2		2007	ARQ	
		Finland	15 - 16	8			2007	ARQ	
		France	15 - 16	31			2007	ESPAD	
		Germany	15 - 16	25.2	17.2		2007	ARQ	Select regions
		Greece	15 - 16	6			2007	ESPAD	
		Hungary	15 - 17	20.7	15.2		2007	ARQ	
		Iceland	15 - 16	9			2007	ESPAD	
		Ireland	15 - 16	20			2007	ESPAD	
		Italy	15 - 16	23			2007	ESPAD	
		Latvia	15 - 16	18.1	11.8		2007	ARQ	
		Liechtenstein	12 - 16	16.2	11.2		2005	ARQ	
		Lithuania	15 - 16	18.2	11.7	4.7	2007	ESPAD	
		Luxembourg	11 - 17	27.4	22.4		1999	ARQ	
		Malta	15 - 16	12.9	10.6		2007	ARQ	

		Monaco	15 - 16	28			2007	ESPAD	
		Netherlands	15 - 16	28			2007	ESPAD	
		Norway	15 - 16	6			2007	ESPAD	
		Poland	15 - 16	15.7	10.9		2007	ARQ	
		Portugal	15 - 16	13			2007	ESPAD	
		Slovakia	15 - 19	39.8	27.2		2007	ARQ	
		Slovenia	15 - 16	22			2007	ESPAD	
		Spain	14 - 18	36.2	29.8		2007	ARQ	
		Sweden	15 - 16	7			2007	ESPAD	
		Switzerland	15 - 16	33			2007	ESPAD	
		United Kingdom	15 - 16	29			2007	ESPAD	
OCEANIA	**Oceania**	Australia	12 - 17	9.3	6.8		2007	ARQ	

3.6.4 Amphetamine-type stimulants

AMPHETAMINES-GROUP use (unless otherwise noted) amongst young people (ordered alphabetically by regions)									
				Life-time	Annual	Last month			
Region	Subregion	Country/ Territory	Coverage (age/grade)	% of young people who ever used	% of young people who used at least once in the past year	% of young people who used at least once in the past month	Year of Estimate	Source	Notes
AFRICA	**Southern Africa**	South Africa	13 - 17	8.8	4.7		2006	ARQ	Methamphetamine; Cape Town
	West and Central Africa	Ghana	13 - 15		7.6		2007	ARQ	Amphetamines (inclds. non-ATS stimulants)
		Ghana	13 - 15		5		2007	ARQ	Methamphetamine
AMERICAS	**Caribbean**	Antigua & Barbuda	Secondary/ High School	2.6	1.5	1.1	2005	OAS (MEM)	Stimulants (inclds Amphetamines)
		Bahamas	10 - 19	0.5	0.3		2003	ARQ	Methamphetamine
		Bahamas	10 - 19	1.8	0.5		2003	ARQ	
		Barbados	Ages 13, 15, and 17	3.5	2.4	1.6	2006	OAS (MEM)	Stimulants (inclds Amphetamines)
		Dominica	Ages 13, 15, and 17	4.3	2.2	1.6	2006	OAS (MEM)	Stimulants (inclds Amphetamines)
		Dominican Rep.	12 - 20	2			2000	ARQ	
		Grenada	Secondary/ High School	3.1	1.6	1.2	2005	OAS (MEM)	Stimulants (inclds Amphetamines)
		Haiti	Secondary/ High School	24.4	11.7	7.5	2005	OAS (MEM)	Stimulants (inclds Amphetamines)
		Jamaica	Ages 11 - 19	6.3	3.5	2.4	2006	OAS	Stimulants (inclds Amphetamines)
		St. Lucia	Ages 13, 15, and 17	6	3.7	2.2	2005	OAS (MEM)	Stimulants (inclds Amphetamines)
		St. Vincent & Grenadines	Ages 13, 15, and 17	2.9	1.7	1.2	2006	OAS (MEM)	Stimulants (inclds Amphetamines)
		Trinidad & Tobago	Ages 13, 15, and 17	3.4	2.1	1.6	2006	OAS (MEM)	Stimulants (inclds Amphetamines)
		Turks & Caicos Isl.	11 - 20	0.9	0.3		2002	ARQ	Methamphetamine
AMERICAS	**Central America**	Costa Rica	Grades 7, 9 and 11 (ages 13 - 17)	4.9	2.8	1.7	2006	OAS (MEM)	

		El Salvador	13 - 17	0.3	0.1		2001	ARQ	Methamphetamine
		El Salvador	13 - 17	2.9	1.5		2001	ARQ	
		Guatemala	12 - 19	7.3	3.8		2002	ARQ	Amphetamine
		Honduras	12 - 17	7.4	3.1	2.0	2005	OAS (MEM)	Stimulants (inclds Amphetamines)
AMERICAS	**North America**	Canada	12 - 17	4.5			2006	ARQ	Amphetamine
		Mexico	12 - 19	3.3	2		2006	ARQ	Amphetamine; Select regions
		Mexico	12 - 19	2.3	0.8		2006	ARQ	Methamphetamine; Select regions
		USA	Grade 10	2.8	1.6		2007	ARQ	Methamphetamine
		USA	Grade 10	11.1	8		2007	ARQ	Amphetamine
AMERICAS	**South America**	Argentina	15 - 16	4.5	3.0	1.9	2005	CICAD/ OAS	
		Bolivia	15 - 16	7.1	3.6	2.1	2004	CICAD/ OAS	
		Brazil	15 - 16	4.9	4.3	3.0	2005	CICAD/ OAS	
		Chile	15 - 16	4.4	2.6	1.0	2005	CICAD/ OAS	
		Colombia	15 - 16	6.4	3.7	2.8	2005	CICAD/ OAS	
		Ecuador	15 - 16	3.0	1.6	1.1	2005	CICAD/ OAS	
		Guyana	12 - 18	1.5	0.8	0.3	2002	ARQ	Methamphetamine
		Guyana	12 - 18	2.0	0.7	0.4	2002	ARQ	
		Paraguay	15 - 16	4.1	2.6	1.2	2005	CICAD/ OAS	
		Peru	15 - 16	1.2	0.6	0.4	2005	CICAD/ OAS	
		Suriname	Secondary/ High School	4.8	2.7	1.5	2006	OAS (MEM)	Stimulants (inclds Amphetamines)
		Uruguay	13 - 17	1.7			2007	ARQ	
		Venezuela	10 - 23	0.9	0.5		2005	ARQ	Amphetamine
ASIA	**Central Asia and Transcaucasian countries**	Armenia	15 - 16	0			2007	ESPAD	
		Kazakhstan	Youth (undefined)	0.8			2007	ARQ	Ages not specified
		Kazakhstan	Youth (undefined)	0.5			2007	ARQ	Amphetamine; Ages not specified
ASIA	**East and South-East Asia**	Hong Kong SAR, China	11 - 20		0.0		2007		Methamphetamine
		Hong Kong SAR, China	11 - 20		0.1		2007		
		Japan	13 - 15	0.4			2006	ARQ	Methamphetamine

		Myanmar	13 - 21	0.4	0.2		2004	ARQ	Methamphetamine; Yangon
		Thailand	Youth (undefined)		2.4		2003	ARQ	Methamphetamine; Ages not specified
ASIA	**Near and Middle East /South-West Asia**	Israel	12 - 18	3.4	2.7		2005	ARQ	Amphetamine
		Jordan	18 - 25		2.6		2001	ARQ	Unversity students
		Lebanon	15 - 16		0.5		2001	ARQ	Rapid Situation Assesment
EUROPE	**East Europe**	Russian Federation	15 - 16		2.3		2007	ARQ	Amphetamine
		Ukraine	15 - 16	1			2007	ESPAD	
EUROPE	**Southeast Europe**	Albania	14 - 19	4.9			2004	ARQ	
		Bulgaria	15 - 19	9			2007	ARQ	Amphetamine
		Bulgaria	15 - 19	3.6			2007	ARQ	Methamphetamine
		Croatia	16	3.7			2007	ARQ	Amphetamine
		Romania	16 - 16		2.1		2003		
		Turkey	15 - 16	2	1		2003	ESPAD	
EUROPE	**West & Central Europe**	Austria	15 - 16	7.9			2007	ESPAD	May include non-ATS stimulants
		Belgium	15 - 16	5			2007	ESPAD	Select regions (Flanders)
		Cyprus	15 - 16	3			2007	ESPAD	
		Czech Rep.	15 - 16	3.5	2.1	1.2	2007	Govt./ ESPAD	Methamphetamine
		Denmark	15 - 16	5			2007	ARQ	
		Estonia	15 - 16	3.8			2007	ARQ	
		Faroe Isl.	15 - 16	1			2007	ESPAD	
		Finland	15 - 16	1			2007	ARQ	Amphetamine
		France	15 - 16	4			2007	ESPAD	
		Germany	15 - 16	5.8			2007	ARQ	Amphetamine
		Greece	15 - 16	3			2007	ESPAD	
		Greenland	15 - 16	0	0		2003	ESPAD	
		Hungary	15 - 17	5.1			2007	ARQ	Amphetamine
		Iceland	15 - 16	4			2007	ESPAD	
		Ireland	15 - 16	3			2007	ESPAD	

		Isle of Man	15 - 16	5			2007	ESPAD	
		Italy	15 - 16	4			2007	ESPAD	
		Latvia	15 - 16	5.6	3.7		2007	ARQ	Amphetamine
		Liechtenstein	12 - 16	1.1	0.4		2005	ARQ	
		Lithuania	15 - 16	3.0			2007	ESPAD	
		Luxembourg	11 - 17	3.7	2.2		1999		
		Malta	15 - 16	5.2			2007	ARQ	Amphetamine
		Netherlands	15 - 16	2			2007	ESPAD	
		Norway	15 - 16	1			2007	ESPAD	
		Poland	15 - 16	3.8	2		2007	ARQ	Amphetamine
		Portugal	15 - 16	2			2007	ESPAD	
		Slovakia	15 - 19	2.3			2007	ARQ	
		Slovenia	15 - 16	2			2007	ESPAD	
		Spain	14 - 18	3.4	2.6		2007	ARQ	Amphetamine
		Sweden	15 - 16	2			2007	ESPAD	
		Switzerland	15 - 16	3			2007	ESPAD	
		United Kingdom	15 - 16	2			2007	ESPAD	
OCEANIA	**Oceania**	Australia	12 - 17	1	0.6		2007	ARQ	Methamphetamine

3.6.5 Ecstasy

ECSTASY-GROUP use amongst young people (ordered alphabetically by regions)									
				Life-time	Annual	Last month			
Region	**Subregion**	Country/ Territory	Coverage (age/grade)	% of young people who ever used	% of young people who used at least once in the past year	% of young people who used at least once in the past month	Year of Estimate	Source	Notes
AFRICA	**Southern Africa**	South Africa	13 - 17	3.2	1.2		2006	ARQ	Select regions (Cape Town)
AMERICAS	**Caribbean**	Antigua & Barbuda	Secondary/ High School	1.2			2005	OAS (MEM)	
		Bahamas	10 - 19	1.2	0.7		2003	ARQ	
		Barbados	Students (ages 13, 15, and 17)	1.8	0.6	0.4	2006	OAS (MEM)	
		Dominica	Students (ages 13, 15, and 17)	0.6			2006	OAS (MEM)	
		Dominican Rep.	12 - 20	1.2			2000	ARQ	
		Haiti	15 - 16	3	2		2005	ARQ	
		Jamaica	Ages 11 - 19	3			2006	OAS	
		St. Vincent & Grenadines	Students (ages 13, 15, and 17)	0.5	0.1	0	2006	OAS (MEM)	
		Trinidad & Tobago	Students (ages 13, 15, and 17)	0.9			2006	OAS (MEM)	
		Turks & Caicos Isl.	11 - 20	2.2	1.6		2002	ARQ	
AMERICAS	**Central America**	El Salvador	13 - 17	0.5	0.3		2003	ARQ	
		Guatemala	12 - 19	0.3	0.2		2004	ARQ	
		Honduras	12 - 17	0.2	0.1	0.1	2005	OAS (MEM)	
		Nicaragua	12 - 18	0.5			2004	ARQ	
AMERICAS	**North America**	Canada	12 - 17	6.2			2006	ARQ	
		USA	Grade 10	5.2	3.5		2007	ARQ	
AMERICAS	**South America**	Argentina	13 - 17	2			2007	ARQ	
		Bolivia	15 - 16	1.4	0.6	0.4	2004	CICAD/ OAS	
		Chile	Grades 8 - 12	4.0	2.0	0.8	2005	OAS (MEM)	
		Colombia	15 - 16	4.3	3.7	1.0	2005	CICAD/ OAS	

		Ecuador	15 - 16	2.4	1.3	0.7	2005	CICAD/ OAS	
		Guyana	12 - 18	0.9	0.5	0.3	2002	ARQ	
		Paraguay	15 - 16	0.5	0.4	0.3	2005	CICAD/ OAS	
		Peru	15 - 16	1.0	0.5	0.3	2005	CICAD/ OAS	
		Suriname	Secondary/ High School	1.2	0.2	0.2	2006	OAS (MEM)	
		Uruguay	13 - 17	1.7			2007	ARQ	
		Venezuela	10 - 23	1.3	0.4		2005	ARQ	
ASIA	**Central Asia and Transcaucasian countries**	Armenia	15 - 16	1			2007	ESPAD	
		Georgia	15 - 16		3.4		2005	ARQ	
		Kazakhstan	0 - 0	0.3			2007	ARQ	
ASIA	**East and South-East Asia**	Hong Kong SAR, China	11 - 20		0.1		2007	ARQ	
		Thailand	Youth (undefined)	0.3			2003	ARQ	Ages not specified
ASIA	**Near and Middle East /South-West Asia**	Israel	12 - 18	2.7	2.2		2005	ARQ	
		Lebanon	15 - 16		2		2001	ARQ	Rapid Situation Assessment
EUROPE	**East Europe**	Belarus	15 - 16	1.3			2007	ARQ	
		Russian Federation	15 - 16	3	1.7		2007	ARQ/ ESPAD	
		Ukraine	15 - 16	3			2007	ESPAD	
EUROPE	**Southeast Europe**	Albania	14 - 19	4.9			2004	ARQ	
		Bulgaria	15 - 19	7.5	5		2007	ARQ	
		Croatia	16	3.5	2.6		2007	ARQ	
		Romania	15 - 16	1			2007	ESPAD	
		Turkey	15 - 16	1.8	0.8		2003	ARQ	
EUROPE	**West & Central Europe**	Austria	15 - 16	3.8	2.6	1.4	2007	ESPAD	
		Belgium	15 - 16	5			2007	ESPAD	Select region (Flanders)
		Cyprus	15 - 16	3			2007	ESPAD	
		Czech Rep.	15 - 16	4.5	3.0	1.2	2007	Govt./ ESPAD	
		Denmark	15 - 16	5.2			2007	ARQ	
		Estonia	15 - 16	5.5			2007	ARQ	
		Faroe Isl.	15 - 16	1			2007	ESPAD	

		Finland	15 - 16	2			2007	ARQ	
		France	15 - 16	4			2007	ESPAD	
		Germany	15 - 16	3.6	2		2007	ARQ	Select regions
		Greece	15 - 16	2			2007	ESPAD	
		Greenland	15 - 16	2	1		2003	ESPAD	
		Hungary	15 - 17	5.9	3.2		2007	ARQ	
		Iceland	15 - 16	2			2007	ESPAD	
		Ireland	15 - 16	4			2007	ESPAD	
		Isle of Man	15 - 16	7			2007	ESPAD	
		Italy	15 - 16	3			2007	ESPAD	
		Latvia	15 - 16	6.5	4.1		2007	ARQ	
		Liechtenstein	12 - 16	0.7	0.6		2005	ARQ	
		Lithuania	15 - 16	3.4			2007	ESPAD	
		Luxembourg	11 - 17	3.1	1.7		1999	ARQ	
		Malta	15 - 16	3.9	3.1		2007	ARQ	
		Monoco	15 - 16	4			2007	ESPAD	
		Netherlands	15 - 16	4			2007	ESPAD	
		Norway	15 - 16	1			2007	ESPAD	
		Poland	15 - 16	2.5	1.4		2007	ARQ	
		Portugal	15 - 16	2			2007	ESPAD	
		Slovakia	15 - 19	6.6	3.9		2007	ARQ	
		Slovenia	15 - 16	3			2007	ESPAD	
		Spain	14 - 18	3.3	2.4		2007	ARQ	
		Sweden	15 - 16	2			2007	ESPAD	
		Switzerland	15 - 16	2			2007	ESPAD	
		United Kingdom	15 - 16	4			2007	ESPAD	
OCEANIA	**Oceania**	Australia	12 - 17	2.2	2		2007	ARQ	

3.7 Drug-related crime

RECORDED DRUG-RELATED CRIME/POSSESSION/ABUSE[1]

Counts correspond to **recorded offences** with the exception of counts reproduced in *italics* which correspond to **persons suspected**. Where respondents did not indicate whether data correspond to offences or persons the count is underlined.

Country		Count / Rate	Year	Count / Rate	Year	Change in rate
Africa						
Algeria	Count	5,702[c]	2004	4,210[c]	2006	
	Rate	18		13		-40
Mauritius	Count	3,115[c]	2004	3,851[c]	2006	
	Rate	253		308		18
Morocco	Count	6,860[c]	2,005	9,038[c]	2006	
	Rate	22		29		24
Namibia	Count	*549*[a]	2004	*575*[a]	2007	
	Rate	28		28		1
South Africa	Count	61,631[a]	2004	93,121[a]	2007	
	Rate	130		192		32
Central America and Caribbean						
Bahamas	Count	1,537[a]	2004	1,363[a]	2007	
	Rate	481		411		-17
Belize	Count	1,375[a]	2005	*987*[a]	2007	
	Rate	499		343		-45
Costa Rica	Count	*5,290*[a]	2003	*14,817*[a]	2005	
	Rate	127		342		63
El Salvador	Count	*1,388*[a]	2004	1,866[a]	2006	
	Rate	21		28		24
Panama	Count	1,484[c]	2002	3,150[c]	2006	
	Rate	48		96		49
North America						
Canada	Count	19,483[c]	2005	21,530[c]	2006	
	Rate	60		66		9
Mexico	Count	38,799[c]	2005	55,667[c]	2006	
	Rate	37		53		30
USA	Count	1,508,469*	2005	1,518,975*	2007	
	Rate	503		497		-1
South America						
Argentina	Count	*22,244*[a]	2004	21,544[a]	2006	
	Rate	58		55		-5
Chile	Count	*10,976*[a]	2005	15,637[a]	2007	
	Rate	67		94		28
Ecuador	Count	*2,235*[a]	2005	*2,633*[a]	2007	
	Rate	17		20		13
Guyana	Count	*242*[a]	2003	405[a]	2005	
	Rate	33		55		40
Uruguay	Count	1,594[c]	2004	1,566[c]	2006	
	Rate	48		47		-2

RECORDED DRUG TRAFFICKING CRIME

Country		Count / Rate	Year	Count / Rate	Year	Change in rate
Africa						
Algeria	Count	1,979[a]	2003	2,733[a]	2007	
	Rate	6		8		23
Mauritius	Count	*452*[a]	2005	*396*[a]	2007	
	Rate	36		31		-16
Morocco	Count	9,615[a]	2004	*9,194*[a]	2007	
	Rate	32		29		-8
Namibia	Count	*225*[a]	2004	*288*[a]	2007	
	Rate	11		14		19
South Africa	Count	12,263[a]	2004	14,697[a]	2007	
	Rate	26		30		15
Central America and Caribbean						
Bahamas	Count	138[a]	2004	110[a]	2007	
	Rate	43		33		-30
Belize	Count	310[a]	2005	*399*[a]	2007	
	Rate	113		139		19
Costa Rica	Count	*1,024*[a]	2004	*1,205*[a]	2006	
	Rate	24		27		12
El Salvador	Count	*808*[a]	2005	968[a]	2007	
	Rate	12		14		14
Panama	Count	882[a]	2005	855[a]	2006	
	Rate	27		26		-5
North America						
Canada	Count	8,937[a]	2005	3,996[a]	2007	
	Rate	28		12		-128
Mexico	Count	*20,443*[a]	2005	*21,890*[a]	2007	
	Rate	20		21		5
USA	Count	337,882 *	2005	322,207 *	2007	
	Rate	113		105		-8
South America						
Argentina	Count	*8,646*[a]	2003	*10,531*[a]	2005	
	Rate	23		27		15
Chile	Count	*6,050*[a]	2005	9,534[a]	2007	
	Rate	37		57		35
Ecuador	Count	*1,304*[a]	2005	*854*[a]	2007	
	Rate	10		6		-56
Guyana	Count	*247*[a]	2003	285[a]	2005	
	Rate	33		39		13
Uruguay	Count	329[a]	2004	466[a]	2006	
	Rate	10		14		29

1 The column headed 'recorded drug-related crime/possession/abuse' contains both data reported in the Annual Reports Questionnaire as 'possession/abuse' and in the Survey of Crime Trends and Operations of Criminal Justice Systems (UN-CTS) as 'drug-related crime'. The definition applied by the Tenth UN-CTS for 'drug-related crime' is 'intentional acts that involve the cultivation, production, manufacture, extraction, preparation, offering for sale, distribution, purchase, sale, delivery on any terms whatsoever, brokerage, dispatch, dispatch in transit, transport, importation, exportation and possession of internationally controlled drugs. Where applicable, reference may be made to the provisions of the Single Convention on Narcotic Drugs of 1961 and other regulations adopted in pursuance of the provisions of the Convention on Psychotropic Substances of 1971 and/or the Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances of 1988'. Where UN-CTS respondents indicated that drug trafficking crimes were included in drug-related crime, the count for drug trafficking was deducted from the count for drug-related crime before inclusion in the table.

RECORDED DRUG-RELATED CRIME/POSSESSION/ABUSE

Country		Count / Rate	Year	Count / Rate	Year	Change in rate
Central Asia/Transcaucasia						
Armenia	Count	411[c]	2004	553[c]	2006	
	Rate	14		18		26
Azerbaijan	Count	2,053[c]	2004	2,266[c]	2006	
	Rate	25		27		8
Georgia	Count	1,427[c]	2004	1,926[c]	2006	
	Rate	32		43		26
Kyrgyzstan	Count	2,452[a]	2005	1,162[a]	2007	
	Rate	47		22		-114
Uzbekistan	Count	5,301[a]	2005	4,301[a]	2007	
	Rate	20		16		-27
East Asia						
Brunei	Count	295[c]	2004	162[c]	2006	
	Rate	81		42		-91
Hong Kong	Count	*3,669*[a]	2005	*4,854*[a]	2007	
	Rate	52		67		23
Japan	Count	23,681[c]	2005	21,298[c]	2006	
	Rate	21		17		-24
Korea	Count	*3,268*[a]	2005	6,469[a]	2007	
	Rate	7		13		49
Singapore	Count	*661*[a]	2005	*1,844*[a]	2007	
	Rate	15		42		64
Near Middle East/South West Asia						
Iran	Count	288,483[a]	2004	*285,152*[a]	2007	
	Rate	420		619		32
Jordan	Count	2,514[a]	2005	2,874[a]	2007	
	Rate	45		49		7
Lebanon	Count	*1,507*[a]	2005	1,648[a]	2007	
	Rate	38		40		7
Syria	Count	3,198[a]	2005	5,002[a]	2007	
	Rate	17		25		33
United Arab Emirates	Count	506[c]	2004	971[c]	2006	
	Rate	13		24		46
South Asia						
Bangladesh	Count	8,089[a]	2005	8,476[a]	2007	
	Rate	5		5		1
Nepal	Count	201[c]	2002	221[c]	2006	
	Rate	1		1		1
Sri Lanka	Count	*28,007*[a]	2005	*43,280*[a]	2007	
	Rate	146		224		35

RECORDED DRUG TRAFFICKING CRIME

Country		Count / Rate	Year	Count / Rate	Year	Change in rate
Central Asia/Transcaucasia						
Armenia	Count	411[a]	2005	471[a]	2007	
	Rate	14		16		13
Azerbaijan	Count	901[c]	2005	905[c]	2006	
	Rate	11		11		0
Georgia	Count	94[a]	2003	61[a]	2007	
	Rate	2		1		-48
Kyrgyzstan	Count	294[a]	2005	283[a]	2007	
	Rate	6		5		-6
Uzbekistan	Count	9,261[a]	2005	9,814[a]	2007	
	Rate	35		36		3
East Asia						
Brunei	Count	0[c]	2005	0[c]	2006	
	Rate	0		0		N.A.
Hong Kong	Count	*2,339*[a]	2005	*3,655*[a]	2007	
	Rate	33		51		35
Japan	Count	1,477[a]	2005	1,518[a]	2007	
	Rate	1		1		0
Korea	Count	*758*[a]	2005	2,845[a]	2007	
	Rate	2		6		73
Singapore	Count	*61*[a]	2005	*101*[a]	2007	
	Rate	1		2		50
Near Middle East/South West Asia						
Iran	Count	124,278[a]	2004	*126,236*[a]	2007	
	Rate	165		182		9
Jordan	Count	746[a]	2005	833[a]	2007	
	Rate	13		14		4
Lebanon	Count	*546*[a]	2005	570[a]	2007	
	Rate	14		14		2
Syria	Count	831[a]	2005	1711[a]	2007	
	Rate	4		9		49
United Arab Emirates	Count	368[a]	2004	202[a]	2006	
	Rate	9		5		-78
South Asia						
Bangladesh	Count	14,133[c]	2005	15,331[c]	2006	
	Rate	9		10		6
Nepal	Count	214[c]	2005	221[c]	2006	
	Rate	1		1		1
Sri Lanka	Count	*34*[a]	2005	*13*[a]	2007	
	Rate	0.2		0.2		0

Sources:

(c) United Nations Survey of Crime Trends and Operations of Criminal Justice Systems. Definition of 'drug-related crime' applied by UNCTS: "Drug-related crime is defined as intentional acts that involve the cultivation, production, manufacture, extraction, preparation, offering for sale, distribution, purchase, sale, delivery, delivery on any terms whatsoever, brokerage, dispatch, dispatch in transit, transport, importation, exportation and possession of internationally controlled drugs. Where applicable, reference may be made to the provisions of the Single Convention on Narcotic Drugs of 1961 and other regulations adopted in pursuance of the porivsions of the Convention on Psychotropic Substances of 1971 and the United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances of 1998." Definition of 'drug-trafficking' applied by UNCTS: "Drug offences, which are not in connection with personal use."

(ª) United Nations Annual Reports Questionnaires.Definitiona applied by UNARQ: "Possession/abuse of drugs" and "Trafficking of drugs, including arrests made in the context of illicit cultivation and manufacture of drugs".

(#) European Monitoring Centre for Drugs and Drug Addiction, Drug Law Offences. Definitions applied by EMCDDA: "Drug-law offences which are related to drug use and/or possesion for use." and "Drug-related dealing/trafficking/production refers to drug law offences which are related to drug dealing and/or drug trafficking/smuggling and/or drug production or any other offence related to these types of illicit activities."

(*) National government sources. NOTE: The definition applied by national sources may not correspond to that applied by cross-national data collection instruments. United States of America: http://www.whitehousedrugpolicy.gov/publications/policy/ndcs09/ndcs09_data_supl/index.html, Australia: http://www.crimecommission.gov.au/content/publications/iddr_2006_07/iddr_2006-07.pdf

(^) Statistical Office of the European Communities, Statistics in Focus. Definition applied by Eurostat: "Drug-trafficking includes illegal possession, cultivation, production, supplying, transportation, importing, exporting, financing etc. of drug operations which are not solely in coonection with personal use."

RECORDED DRUG-RELATED CRIME/POSSESSION/ABUSE

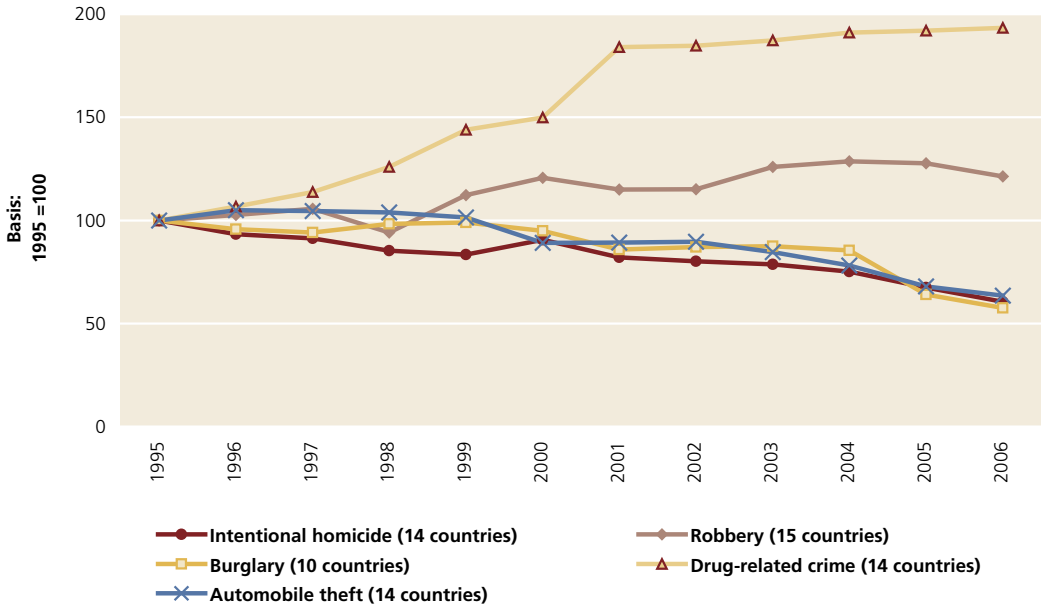
Country		Count / Rate	Year	Count / Rate	Year	Change in rate
East Europe						
Belarus	Count	*2,376*[a]	2003	*2,278*[a]	2005	
	Rate	24		23		-4
Moldova	Count	1,681[a]	2004	2,087[a]	2006	
	Rate	43		54		21
Russian Federation	Count	96,890[a]	2003	175,241[a]	2005	
	Rate	67		122		45
Ukraine	Count	40,688[c]	2005	40,444[c]	2006	
	Rate	87		87		0
South East Europe						
Bosnia and Herzegovina	Count	236[c]	2005	193[c]	2006	
	Rate	6		5		-23
Bulgaria	Count	2,409[a]	2004	2,524[a]	2006	
	Rate	31		33		6
Croatia	Count	5,124[a]	2005	5,033[a]	2007	
	Rate	113		110		-3
FYROM	Count	292[c]	2005	261[c]	2006	
	Rate	14		13		-12
Montenegro	Count	355[c]	2005	438[c]	2006	
	Rate	58		73		21
Romania	Count	944[c]	2004	1620[c]	2006	
	Rate	4		8		50
Serbia	Count	336[c]	2005	268[c]	2006	
	Rate	3		3		0
Turkey	Count	4,760[a]	2005	11,354[a]	2007	
	Rate	7		15		57
West Central Europe						
Austria	Count	25,089[a]	2005	21,196[a]	2007	
	Rate	303		254		-19
Belgium	Count	25,683[a]	2005	23,720[a]	2007	
	Rate	247		227		-9
Cyprus	Count	404[c]	2005	454[c]	2006	
	Rate	48		54		11
Czech Republic	Count	648[c]	2005	674[c]	2006	
	Rate	6		7		14
Denmark	Count	16,630[c]	2004	20,327c	2006	
	Rate	308		374		18
UK: England and Wales	Count	153,203[c]	2005	167,732[c]	2006	
	Rate	287		312		8
Estonia	Count	1,099[c]	2004	981[c]	2006	
	Rate	82		73		-11
Finland	Count	15,064[a]	2005	15,479[a]	2007	
	Rate	287		293		2
France	Count	101,047[a]	2005	134,320[a]	2007	
	Rate	166		218		24
Germany	Count	232,502[a]	2004	205,164[a]	2007	
	Rate	281		248		-13
Greece	Count	12,823[a]	2004	13,948[a]	2006	
	Rate	116		125		7
Hungary	Count	*7,012*[a]	2005	*4,117*[a]	2007	
	Rate	70		41		-71
Ireland	Count	*9,867*[a]	2005	*18,439*[a]	2007	
	Rate	238		429		44
Italy	Count	7,603[c]	2005	8,542[c]	2006	
	Rate	13		15		13
Latvia	Count	545[a]	2005	*1,531*[a]	2007	
	Rate	24		67		64
Lithuania	Count	*682*[a]	2005	*718*[a]	2007	
	Rate	20		21		5
Netherlands	Count	6,348[a]	2005	5,889[a]	2007	
	Rate	39		36		-8
UK: Northern Ireland	Count	1,924[c]	2002	2,411[c]	2006	
	Rate	113		139		19
Norway	Count	16,866[a]	2005	17,408[a]	2007	
	Rate	364		371		2
Poland	Count	50,114[a]	2005	51,352[a]	2007	
	Rate	131		135		3
Portugal	Count	5,370[#]	2004	6,216[#]	2006	
	Rate	51		59		14
UK: Scotland	Count	34,634[c]	2004	33,532[c]	2006	
	Rate	680		656		-4
Slovakia	Count	1,993[c]	2004	1,732[c]	2006	
	Rate	37		32		-15
Slovenia	Count	2,944[#]	2004	3,197[#]	2006	
	Rate	147		160		8
Spain	Count	*188,125*[a]	2005	*253,559*[a]	2007	
	Rate	433		573		24
Sweden	Count	14,388[#]	2004	17,819[#]	2006	
	Rate	160		196		19
Switzerland	Count	40,432[a]	2005	37,030[a]	2007	
	Rate	545		495		-10
Oceania						
Australia	Count	62,209*	2004/05	66,530*	2006/07	
	Rate	308		322		4
New Zealand	Count	8,672[c]	2002	8,694[c]	2006	
	Rate	212		210		-1

RECORDED DRUG TRAFFICKING CRIME

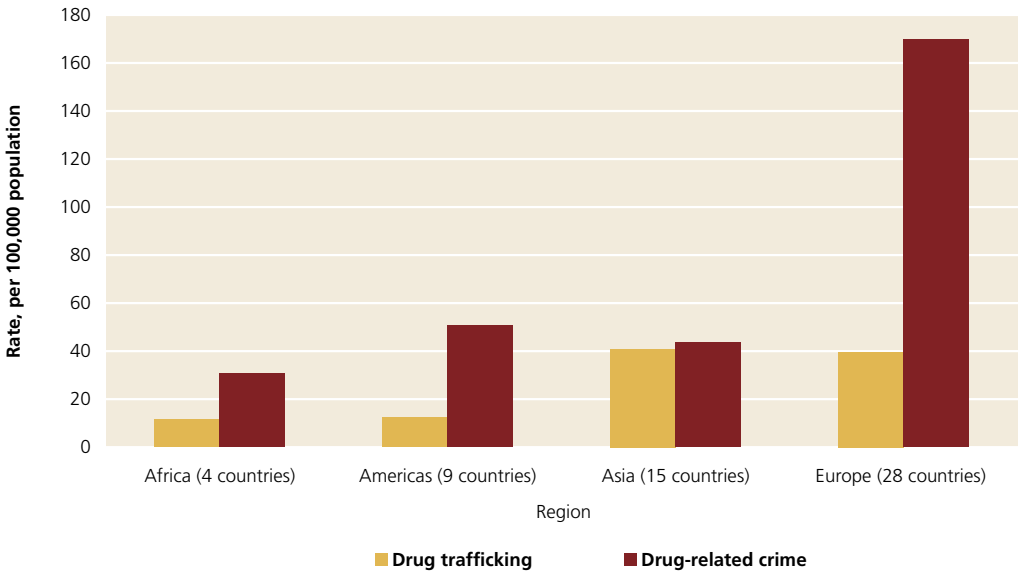
Country		Count / Rate	Year	Count / Rate	Year	Change in rate
East Europe						
Belarus	Count	*783*[a]	2003	*1,094*[a]	2005	
	Rate	8		11		27
Moldova	Count	2,086[c]	2005	1,997[c]	2006	
	Rate	54		52		-3
Russian Federation	Count	212,019[a]	2006	231,218[a]	2007	
	Rate	148		162		9
Ukraine	Count	24,329[c]	2005	24,186[c]	2006	
	Rate	52		52		0
South East Europe						
Bosnia and Herzegovina	Count	1355[c]	2005	1322[c]	2006	
	Rate	35		34		-3
Bulgaria	Count	448[a]	2004	168[a]	2006	
	Rate	6		2		-163
Croatia	Count	576[a]	2005	646[a]	2007	
	Rate	13		14		11
FYROM	Count	98[c]	2005	54[c]	2006	
	Rate	5		3		-82
Montenegro	Count	294^	2005	549^	2007	
	Rate	48		92		47
Romania	Count	1,314[c]	2005	1,608[c]	2006	
	Rate	6		7		19
Serbia	Count	4,968[c]	2005	4,839[c]	2006	
	Rate	50		49		-3
Turkey	Count	7,022[a]	2005	9,774[a]	2007	
	Rate	10		13		26
West Central Europe						
Austria	Count	2,224[a]	2005	2,426[a]	2007	
	Rate	27		29		8
Belgium	Count	8,650[a]	2005	12,695[a]	2007	
	Rate	83		121		31
Cyprus	Count	289[a]	2005	264[a]	2007	
	Rate	35		31		-13
Czech Republic	Count	2,267[a]	2005	2,248[a]	2006	
	Rate	22		22		0
Denmark	Count	2,738^	2005	3,258^	2007	
	Rate	51		60		15
UK: England and Wales	Count	25,276^	2005	28,130^	2007	
	Rate	47		52		9
Estonia	Count	686^	2005	1,449^	2007	
	Rate	51		109		53
Finland	Count	5,177^	2005	5,115^	2007	
	Rate	99		97		-2
France	Count	19,258[a]	2005	21,397[a]	2007	
	Rate	32		35		9
Germany	Count	62,131[a]	2004	53,770[a]	2007	
	Rate	75		65		-16
Greece	Count	4,667[a]	2005	3,943[a]	2006	
	Rate	42		35		-20
Hungary	Count	7,627^	2005	4,676^	2007	
	Rate	76		47		-62
Ireland	Count	3,160[c]	2005	3,632[c]	2006	
	Rate	76		86		11
Italy	Count	24,456[c]	2005	23,764[c]	2007	
	Rate	42		40		-3
Latvia	Count	326[a]	2005	*626*[a]	2007	
	Rate	14		27		48
Lithuania	Count	*329*[a]	2005	*395*[a]	2007	
	Rate	10		12		18
Netherlands	Count	14,161[a]	2005	13,186[a]	2007	
	Rate	87		80		-8
UK: Northern Ireland	Count	349[c]	2005	473[c]	2006	
	Rate	20		27		26
Norway	Count	5,747[#]	2003	6,056[#]	2005	
	Rate	126		131		4
Poland	Count	24,433[a]	2005	39,591[a]	2007	
	Rate	64		104		38
Portugal	Count	3,535^	2005	3,281^	2007	
	Rate	34		31		-9
UK: Scotland	Count	9,613[c]	2005	9,827[c]	2007	
	Rate	189		213		12
Slovakia	Count	843^	2005	470^	2007	
	Rate	16		9		-80
Slovenia	Count	1,026^	2005	1,429^	2007	
	Rate	51		71		28
Spain	Count	*22,493*[a]	2005	*25,238*[a]	2007	
	Rate	52		57		9
Sweden	Count	4,670[c]	2005	7,026[c]	2007	
	Rate	52		77		32
Switzerland	Count	2,757[a]	2005	2,809[a]	2007	
	Rate	37		38		1
Oceania						
Australia	Count	14,613*	2004/05	15,709*	2006/07	
	Rate	72		76		5
New Zealand	Count	4,293[c]	2005	4,271[c]	2006	
	Rate	105		103		-2

The column headed 'recorded drug-related crime/possession/abuse' contains both data reported in the Annual Reports Questionnaire as 'possession/abuse' and in the Survey of Crime Trends and Operations of Criminal Justice Systems (UN-CTS) as 'drug-related crime'. The definition applied by the Tenth UN-CTS for 'drug-related crime' is 'intentional acts that involve the cultivation, production, manufacture, extraction, preparation, offering for sale, distribution, purchase, sale, delivery on any terms whatsoever, brokerage, dispatch, dispatch in transit, transport, importation, exportation and possession of internationally controlled drugs. Where applicable, reference may be made to the provisions of the Single Convention on Narcotic Drugs of 1961 and other regulations adopted in pursuance of the provisions of the Convention on Psychotropic Substances of 1971 and/or the Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances of 1988'. Where UN-CTS respondents indicated that drug trafficking crimes were included in drug-related crime, the count for drug trafficking was deducted from the count for drug-related crime before inclusion in the table.

Trends in selected categories of police recorded crime in countries consistently reporting over the period 1995-2004 (1995 = 100)



Comparison of drug-trafficking and drug-related crime rates for selected countries, 2006



4. METHODOLOGY

4.0 Methodology

Considerable efforts have been made over the last few years to improve the estimates presented in this report. Nonetheless, challenges remain in making such estimates because of the gaps and variable quality of the data available.

A major problem relates to the irregularity and incompleteness in reporting by Member States. First, the irregular intervals at which some Governments report may result in absence of data in some years. The lack of regular data, for which UNODC tries to compensate by referring to other sources, can influence the reported trend in a given year. Second, submitted questionnaires are not always complete or sufficiently comprehensive. Third, as will become clear in this section, many of the data collected are themselves subject to limitations and biases. These issues affect the quantity, quality and comparability of information received.

Attempts have been made to provide information about the accuracy of the data throughout this *Report*. This section presents detailed information on the data sources and methods used to make the estimates featured throughout the *Report*. This information can be used to inform the reader's understanding of the quality of the data presented.

Sources of information

Under the international drug control conventions, Member States are formally required to provide drug-related information annually, as detailed by the Commission on Narcotic Drugs, to the 'Secretary-General of the United Nations' (that is, the Secretariat of UNODC). The Commission on Narcotic Drugs developed the Annual Reports Questionnaire (ARQ) to collect these data.

The 2009 *World Drug Report* is based primarily on data obtained from the ARQs returned by Governments to UNODC over the June 2008 to May 2009 period. Where no ARQ was submitted in this year, data from the previous ARQ submission were used. The data collected during this period (2008-2009) normally refer to the drug situation in 2007.

UNODC sent out the questionnaire to 192 countries, where some were also forwarded on to autonomous territories. UNODC received 118 replies to its questionnaire on *Drug Use Demand* (Part II) and 116 replies to its questionnaire on *Illicit Supply of Drugs* (Part III).[a] The best coverage was from countries in Europe (84% of all countries in Europe returned Part II and 87% Part III of the ARQ), followed Asia (76% both Demand and Supply), and the Americas (60% of the countries providing the Demand, and 57% the Supply ARQ). In the case of Africa, only a third of countries replied to the Supply ARQ and 38% to the Demand ARQ. In the Oceania region, two countries supplied information, equivalent to 14% of the countries in the region. Member States' responses to the ARQs are shown on the subsequent maps.

Typically, the ability of Member States to provide information on illicit drug supply is significantly better than their ability to provide demand-related information. However, as noted above, two more Member States responded to the Demand ARQ than the Supply ARQ. Both the Demand and Supply ARQ's have sets of "key" questions (see below). ARQs where more than 50% of these key questions were completed are defined as having been 'substantially filled in'; the rest were classified as having been 'partially filled in'. This term reflects whether countries provided some replies to the "key" questions, but that not all of the data were provided, since in many cases Member States do not have the information. The analysis of the 'Supply ARQs' submitted this year revealed that 84% of them were 'substantially' completed compared to just 59% of the 'Demand ARQs'.

In order to identify the extent to which Member States are able to provided at least some information, a number of key questions in the ARQs were identified[b]:

- For the 'Supply ARQs (Part III)', this included replies to the questions on 'drug seizures', i.e. on the quantities seized (replied by 95% of the countries returning the ARQ), the number of seizure cases (70%), 'trafficking' (origin of drugs and/or destination (88%)), 'drug prices' (90%), and 'drug related arrests' and/or 'convictions' (92%).

a From 115 and 113 Member States, respectively with additional responses from their territories.

b Each key question includes several subsections, typically by drug group (i.e. cannabis, cocaine, opiates, etc.). If Member States provide any quantifiable data in any part of key question's subsection, the key question is classified as "filled-in." There is no assessment of the accuracy of completeness of the data or information provided.

- For the Demand ARQs (Part II), the key questions used for the analysis referred to 'trends in drug use' and 'ranking of drugs in terms of their prevalence among the general population' (replied by 91% of the Member States); 'prevalence estimates' (general population (50%), students (59%) and 'drug treatment' (74%)).

Information provided by Member States in ARQs form the basis for the estimates and trend analysis provided in the World Drug Report. Often, this information and data are not sufficient to provide an accurate or comprehensive picture of the world's drug situation. When necessary and where available, the data from the ARQs are thus supplemented with data from other sources.

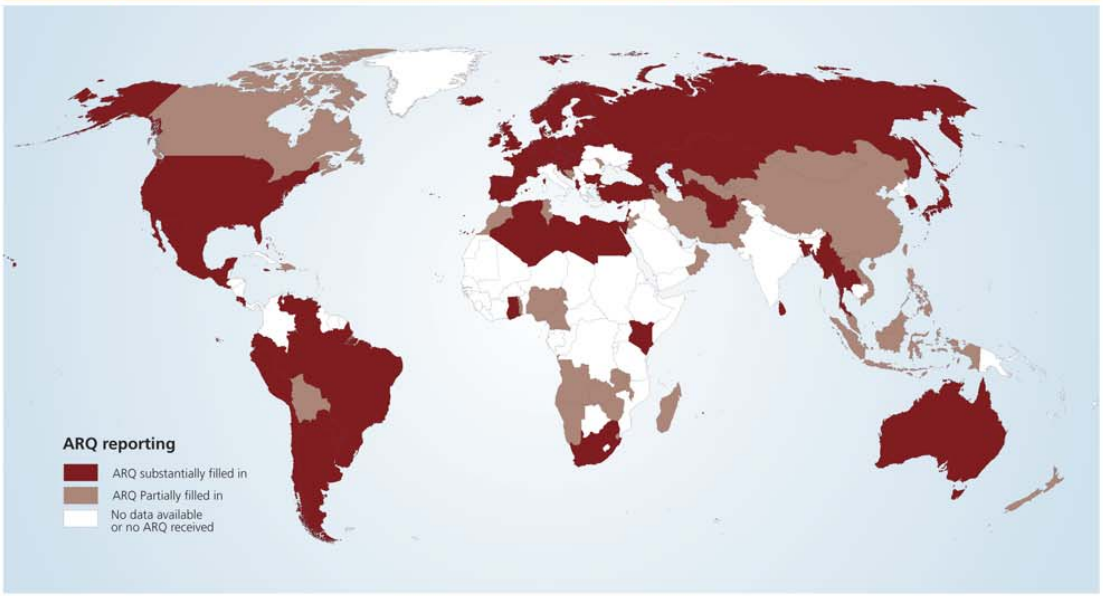
As in previous years, seizure data made available to UNODC via the ARQs was complemented primarily with data and reports from international organizations such as INTERPOL, the World Customs Organization (WCO), EUROPOL, the Organization of American States (OAC)/ Inter-American Drug Abuse Control Commission (CICAD), and data provided to UNODC by the Heads of National Law Enforcement Agencies (HONLEA) at their regional meetings, data provided through UNODC's '*Data for Africa*' project, and UNODC's '*Drug Use Information Network for Asia and the Pacific*' (DAINAP). In addition, Government reports and on-line electronic resources are used if they are located. Other sources considered included data published by the United States Department of State's Bureau for International Narcotics and Law Enforcement Affairs in its *International Narcotics Control Strategy Report (INCSR)*.

Price data for Europe was complemented with data from Europol. Precursor data presented are basically those collected by the International Narcotics Control Board (INCB). Demand-related information was obtained through a number of additional channels, including UNODC's Global Assessment Programme (GAP), the drug control agencies participating in UNODC's DAINAP network, as well as various national and regional epidemiological networks such as the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) and the Inter-American Drug Use Control Commission (CICAD). National government reports and scientific literature were also used as sources of information. This type of supplementary information is useful and needed as long as Member States lack the monitoring systems necessary to produce reliable, comprehensive and internationally comparable data.

To this end, UNODC encourages and supports the improvement of national monitoring systems. Major progress has been made over the last few years in some of the main drug producing countries. In close cooperation with UNODC's Illicit Crop Monitoring Programme (ICMP) and with the support of major donors these countries have developed monitoring systems designed to identify extent of and trends in the cultivation of narcotic plants. These data form another basis for the trend analysis presented in the World Drug Report.

There remain significant data limitations on the demand side. Despite commendable progress made in a number of Member States, in the area of prevalence estimates, for example, far more remains to be done to provide a truly reliable basis for trend and policy analysis and needs assessments. The work being done for the 2009 *World Drug Report* provides yet another opportunity to emphasise the global need for improving data collection and monitoring to improve the evidence base for effective policy.

Reporting of Annual Report Questionnaires (ARQ) Part II, Drug use, for the year 2007



Reporting of Annual Report Questionnaires (ARQ) Part III, Illicit supply of drugs, for the year 2007

Supply side data

Drug cultivation, production and manufacture

In line with decisions of the Member States (1998 UNGASS and subsequent Commission on Narcotic Drugs resolutions), UNODC launched an Illicit Crop Monitoring Programme (ICMP) in 1999. The objective of the programme is to assist Member States in establishing national systems to monitor the extent and evolution of the illicit cultivation of narcotics crops on their territories. The results are compiled by UNODC to present global estimates on an annual basis. Data on cultivation of opium poppy and coca bush and production of opium and coca leaf, presented in this report for the main producing countries (Afghanistan, Myanmar and Lao PDR for opium and Colombia, Peru and Bolivia for coca) have been derived from these national monitoring systems operating in the countries of illicit production, covering the period up to, and including 2008. The Government of Morocco, in cooperation with UNODC, also conducted surveys on illicit cannabis cultivation and cannabis resin production in 2003, 2004 and 2005. Estimates for other countries presented in this report have been drawn from replies to UNODC's Annual Reports Questionnaire, from various other sources including reports from Governments, UNODC field offices and the United States Department of State's Bureau for International Narcotics and Law Enforcement Affairs.

Area under cultivation

Heroin, cocaine and cannabis (herb and resin) are so-called plant-based drugs. A first step towards estimating their global production is to estimate the area cultivated with opium poppy, coca bush and cannabis. Three different methods of illicit area monitoring are used by UNODC supported national monitoring systems:

- Area estimation from satellite imagery
- Area estimation from helicopter survey
- Area estimation from village survey

In the coca cultivating countries Bolivia, Colombia and Peru, the area under coca bush is identified on satellite images, which cover the whole area where coca cultivation is thought to take place. In Bolivia, aerial photography is occasionally used as well. The UNODC supported cannabis survey in Morocco used a similar approach.

In Myanmar, areas with a high density of opium poppy are covered with a sample of satellite images. The final area estimate is derived by extrapolation. In low density areas, the area estimate is derived from the village survey (sample survey), which is conducted in all poppy growing areas. In Lao PDR, the survey is conducted by helicopter over sample sites. Digital photographs of all opium poppy fields falling into these sites are taken, geo-referenced and analysed in a geographic information system. The area estimate is derived by extrapolation.

In Afghanistan, similar to the method used in Myanmar, satellite imagery over sample sites are analysed and the area measured is extrapolated. In addition, a nationally representative survey of villages is conducted in order to collect information on the socioeconomic status of farmers, including areas with high, low and zero levels of poppy cultivation. In regions with a low level of poppy cultivation, which are not covered by imagery, the area estimate is derived from the village survey.

In some countries, the methods used have changed over the years as new technologies became available and to adapt to the dynamics of illicit cultivation. Only the methods used in the most recent year reported are described here briefly. A full technical description of the methods used in all years can be found in the respective national survey reports available at http://www.unodc.org/unodc/en/crop-monitoring/index.html .

Yield[c]

As a second step in the production estimation chain, the number of harvests per year and the total yield of primary plant material has to be established. The UNODC-supported national surveys use measure yield in the field and interviews with farmers, using results from both to produce the final data on yield.

For cannabis, the yield of cannabis plant material per hectare can be established by directly harvesting the plant material. Opium yield surveys are more complex. Harvesting opium with the traditional lancing method can take up to 2 weeks as the opium latex that oozes out of the poppy capsule has to dry before harvesters can scrap it of and several lancings take place until the plant has dried. To avoid this lengthy process, yield surveyors measure the number of poppy capsules and their size in sample plots. Using a formula developed by scientists based on research experiments, the measured poppy capsule volume indicate how much opium gum each plant potentially yields. Thus, the per hectare opium yield can be estimated. Different formulas were developed for Southeast and Southwest Asia. In Afghanistan and Myanmar, yield surveys are carried out annually.

Coca bush, a perennial plant cultivated in tropical climate, allows several harvest per year. The number of harvests varies, as does the yield per harvest. In Bolivia and Peru, the UNODC supports monitoring systems that conduct coca leaf yield surveys in several regions, by

c Further information on the methodology of opium and cannabis leaf yield surveys conducted by UNODC can be found in United Nations (2001): Guidelines for Yield Assessment of Opium Gum and Coca Leaf from Brief Field Visits. New York. (ST/NAR/33).

harvesting sample plots of coca fields over the course of a year, in the rhythm indicated by the coca farmer. In Colombia, where the security situation did not allow for surveyors to return to the sample fields, only one harvest was measured, and the other harvests were estimated based on information from the farmer. In all three coca countries, yield surveys are carried out only occasionally, due to the difficult security situation in many coca regions, and because of funding constraints.

Conversion factors

The primary plant material harvested - opium in the form of gum or latex from opium poppy, coca leaves from coca bush, and the cannabis plant - undergo a sequence of extraction and transformation processes, some of which are done by farmers onsite, others by traffickers in clandestine laboratories. Some of these processes are complex, involve chemical precursors and may be done be different people in different places under a variety of conditions, which are not always known. In the case of opium gum, e.g., traffickers extract the morphine contained in the gum in one process, and transform the morphine into heroin base in a second process, and finally produce heroin hydrochloride. In the case of cocaine, coca paste is produced from either sun-dried (in Bolivia and Peru) or fresh coca leaves (in Colombia), which is later transformed into cocaine base, from where cocaine hydrochloride is produced.

The results of each step, e.g. from coca leaf to coca paste, can be estimated with a conversion factor. Such conversion factors are based on interviews with the people who are involved in the process, e.g. farmers in Colombia, who reported how much coca leaf they needed to produce 1 kg of coca paste or cocaine base. Tests have also been conducted, where so-called 'cooks' or 'chemists' demonstrate how they do the processing under local conditions. A number of studies conducted by enforcement agencies in the main drug producing countries have provided the orders of magnitude for the transformation from the raw material to the end product. The problem is that this information is usually based on just a few case studies which are not necessarily representative of the entire production process. Farmer interviews are not always possible due to the sensitivity of the topic, especially if the processing is done by specialists and not by the farmers themselves. Establishing conversion ratios is complicated by the fact that traffickers may not know the quality of the substances they use, which may vary considerably, they may use a range of substances for the same purpose depending on their availability and costs, and the conditions under which the processing takes place (temperature, humidity, etc.) differ.

It is important to take into account that the margins of error of these conversion ratios - used to calculate the potential cocaine production from coca leaf or the heroin production from opium - are not known. In order to be precise, these calculations would require detailed information on the morphine content of opium or the cocaine content of the coca leaf, as well as detailed information on the efficiency of clandestine laboratories. This information is very limited. This also applies to the question of the psychoactive content of the narcotic plants. One study conducted in Afghanistan by UNODC over two years indicated, for instance, that the morphine content of Afghan opium was significantly higher than had been thought earlier. Based on this study, and in combination with information on the price structure[d], it became clear that the conversion ratio that had been used (10:1) had to be changed. In 2005, therefore, the transformation ratio was estimated at 7:1, following additional information obtained from interviews with morphine/heroin producers in Afghanistan.

Many cannabis farmers also conduct the first processing steps, either by removing the upper leaves and flowers of the plant to produce cannabis herb or by threshing and sieving the plant material to extract the cannabis resin. The herb and resin yield per hectare can be obtained by multiplying the plant material yield with an extraction factor. In Morocco, this factor was established by using information from farmers on the methods used and on results from scientific laboratories[e]. Information on the yield was obtained from interviews with cannabis farmers. Greater details on the methodology to estimate global cannabis herb and resin production are provided in the Cannabis Production section of this Report.

'Potential' heroin or cocaine production shows the level of production of heroin or cocaine if all of the cultivated opium or coca leaf were transformed into the end products in the respective producer country. Part of the opium or the coca leaf is directly consumed in the producing countries or in neighbouring countries, prior to the transformation into heroin or cocaine. In addition, significant quantities of the intermediate products, coca paste or morphine, are also consumed in the producing countries. These factors are partly taken into account: for example, consumption of coca leaf considered licit in Bolivia and Peru is not taken into account for the transformation into cocaine. Potential production is a hypothetical concept to be used at the global level and not as an indication of heroin or cocaine production at the country level[f]. The overall accuracy of the global heroin

d Prices suggested that, using a 10:1 conversion ratio of opium to heroin, laboratory owners would have been losing money.

e For greater detail on studies with cannabis farmers, see: UNODC (2007). *Enquête sur le cannabis au Maroc 2005*. Vienna: United Nations Office on Drugs and Crime.

f The calculation of 'potential' cocaine production estimates for Peru, for instance, probably exceeds actual local cocaine production as some of the coca paste or cocaine base produced in Peru is thought to be exported to neighbouring Colombia and other countries for further processing into cocaine.

and cocaine estimates has certainly improved over the last few years and can used with a good level of confidence.

ATS manufacture estimates

The approach taken to estimate ATS manufacture changed significantly in this year's *Report*. Since 2003, UNODC triangulated three estimates: 1) estimates based upon ATS consumption; 2) estimates based upon ATS drug seizures, and 3) estimates based on seized precursor chemicals likely used in the illicit manufacture of ATS.[g] There have been significant changes, however, in both ATS use and manufacture, which severely limit the usefulness of this approach.[h]

In this *Report*, UNODC therefore presented a model based only on estimated consumption, to produce a range of ATS manufacture. This approach utilizes the estimated range of annual global users, and multiplies this by the average amount of pure ATS believed to be consumed (i.e. among both casual and problem users) for each drug type. The average user of amphetamines-group substance was estimated to consume 12 grams of pure meth/amphetamine per year (range 1.6 – 34.4); and the average 'ecstasy' user was estimated to consume 5 grams of pure MDMA per year (0.8 – 13.6). The amount of seized drugs for each group are added to the total quantity of ATS and ecstasy estimated to be consumed globally. Totals are derived to estimate the lower and upper range of likely manufacture for amphetamines-group and ecstasy-group substances.

There are a range of issues with this approach related to the quality of the data on the level and amount of consumption of ATS and ecstasy by users, and uncertainty around the applicability of data on consumption patterns from studies of ATS and ecstasy users in a limited number of countries to all such users in all countries. Further, estimates using a similar consumption-based approach for cannabis produced estimates with a much lower range compared to other methods of estimating cannabis production. Considerable caution should therefore be taken when considering the estimates produced by this method.

UNODC is reviewing this approach to estimating ATS manufacture, and is in discussions with experts in the field to develop a more sophisticated approach to determining global levels of ATS manufacture.

g See *Ecstasy and Amphetamines, Global Survey 2003* (United Nations publication, Sales No. E.03.XI.15).

h See *Amphetamines and Ecstasy: 2008 Global ATS Assessment* (United Nations publication, Sales No. E.08.XI.12).

Drug trafficking

The information on drug trafficking, as presented in this report, is mainly drawn from the Annual Reports Questionnaires (ARQ). Additional sources, such as other Government reports, INTERPOL, the World Customs Organization (WCO), reports by the Heads of National Law Enforcement Agency (HONLEA), data provided via UNODC's 'Data for Africa' project, data provided via UNODC's, 'Drug Use Information Network for Asia and the Pacific' (DAINAP), and UNODC's field offices, were used to supplement the information. Priority was given to officially transmitted data in the Annual Reports Questionnaire. The analysis of quantities seized, shown in this report, was provided from 107 ARQ's over the June 2008–May 2009 period. Including information from other sources, UNODC was able to obtain seizure data from 143 countries for 2007. Seizures are thus the most comprehensive indicator of the drug situation and its evolution at the global level. Although seizures may not always reflect trafficking trends correctly at the national level, they tend to show reasonable representations of trafficking trends at the regional and global levels.

There are some technical problems as – depending on the drugs - some countries report seizures in weight terms (kilogram - kg), in volume terms (litres - l) while other countries report seizures in 'unit terms'. In the online inter-active seizure report (*www.unodc.org*), seizures are shown as reported. In the World Drug Report, seizure data have been aggregated and transformed into a unique measurement: seizures in 'kilogram equivalents'. For the purposes of the calculations a 'typical consumption unit' (at street purity) was assumed to be: cannabis herb: 0.5 g, cannabis resin: 0.135 g; cocaine and ecstasy: 0.1 g, heroin and amphetamines: 0.03 g; LSD: 0.00005 g (50 micrograms). A litre of seizures was assumed to be equivalent to one kilogram. For opiate seizures (unless specified differently in the text), it was assumed that 10 kg of opium were equivalent to 1 kg of morphine or heroin. Though all of these transformation ratios can be disputed, they provide a means of combining all the different seizure reports into one comprehensive measure. The transformation ratios have been derived from those normally used by law enforcement agencies, in the scientific literature and by the International Narcotics Control Board, and were established in consultation with UNODC's Laboratory and Scientific Section. No changes in the transformation ratios used in last year's *World Drug Report* were made.

Seizures are used as an indicator for trends and patterns in trafficking. In combination with changes in drug prices or drug purities, changes in seizures can indicate whether trafficking has increased or declined. Increase in seizures in combination with stable or falling drug prices is a strong indication of rising trafficking activities.

Increasing seizures and rising drug prices, in contrast, may be a reflection of improved enforcement effectiveness. Changes in trafficking can also serve as an indirect indicator for global production and use of drugs. Seizures are, of course, only an indirect indicator for trafficking activities, influenced by a number of additional factors, such as variations in law enforcement practices and changes in reporting modalities. Seizures can also sometimes be double counted when more than one organization is involved.

Overall seizures have proven to be a good indicator to reveal underlying trafficking trends if analyzed over long periods of time and across large geographical entities. While seizures at the national level may be influenced by large quantities of drugs in transit or by shifts in law enforcement priorities, it is not very likely that the same is true at the regional or at the global level. If a large drug shipment, while in transit, is taken out of the market in one country, fewer drugs will be probably seized in the neighbouring countries. Similarly, if enforcement efforts and seizures decline in one country, the neighbouring countries are likely to suffer from intensified trafficking activities, resulting in rising levels of seizures. The impact of changes in enforcement priorities of an individual country are, in general, not significant at the regional or global level.

Drug price and purity data

UNODC also collects and publishes price and purity data. These data, if properly collected, can be very powerful indicators of market trends. Trends in supply can change over a shorter period of time when compared with changes in demand and shifts in prices and purities are good indicators for increases or declines of market supply. Research has shown that short-term changes in the consumer markets are first reflected in purity changes while prices tend to be rather stable over longer periods of time. UNODC collects its price data from the Annual Reports Questionnaire, and supplements this data with other sources, such as price data collected by Europol and other organisations. Prices are collected at farm-gate level, wholesale level ('kilogram prices') and at retail level ('gram prices'). Countries are asked to provide minimum, maximum and typical prices and purities.

When countries do not provide typical prices/purities, UNODC calculates the mid-point of these estimates as a proxy for the 'typical' prices/purities (unless scientific studies are available which provide better estimates). What is not known, in general, is how data were collected and how reliable it is.

Although improvements have been made in some countries over the last few years, a number of law enforcement bodies in several countries have not yet established a regular system for collecting purity and price data.

Data on drug consumption

Overview

UNODC estimates of the extent of illicit drug use in the world have been published periodically since 1997. The latest estimates, presented in this report, are based on information received until April 2009.

Assessing the extent of drug use (the number of drug users) is a particularly difficult undertaking because it involves measuring the size of a 'hidden' population. Margins of error are considerable, and tend to multiply as the scale of estimation is raised, from local to national, regional and global levels. Despite some improvements in recent years, estimates provided by Member States to UNODC are still very heterogeneous in terms of quality and reliability. These estimates cannot simply be aggregated globally to arrive at an "exact" number of drug users in the world. In this year's *World Drug Report*, the new country data presented (not reported in previous *World Drug Reports*) are expressed in ranges where point estimates could not be produced given the level of uncertainty. Regional and global estimates are also reported as ranges reflecting the lack of information in some countries. It can be noted that the level of confidence expressed in the estimates vary across regions and across drugs.

This approach marks a departure from the approaches used in all previous *World Drug Reports*. Comparisons are therefore not valid for this year's global and regional estimates with those made in previous years.

A global estimate of the level of use of specific drugs involved the following steps:

1. Identification and analysis of appropriate sources;
2. Identification of key benchmark figures for the level of drug use in all countries where data are available (annual prevalence of drug use among the general population aged 15-64) which then serve as 'anchor points' for subsequent calculations;
3. 'Standardisation' of existing data if reported with a different reference population than the one used for the *Report* (for example, from age group 12 and above to a standard age group of 15-64) ;
4. Adjustments of national indicators to annual prevalence rate if annual prevalence is not available (for example, lifetime prevalence or current use to annual prevalence or school survey results to annual prevalence among the general population). This included the identification of adjustment factors based on information from neighbouring countries with similar cultural, social and economic situations;
5. Imputation for countries where data is not available based on data from countries in the same region. Ranges were calculated considering the 10^{th} and 90^{th} percentile of the regional distribution.

6. Extrapolation of available results from countries in a region to the region as a whole. Regional estimates were calculated only for regions where data for at least two countries covering at least 20% of the population was available;

7. Aggregation of regional results to arrive at global results.

Country-level estimates of the number of people who have used drugs at least once in the past year

Estimates of illicit drug consumption for a large number of countries have been received by UNODC over the years (in the form of Annual Reports Questionnaires (ARQ) submitted by Governments), and have been identified from additional sources, such as other governmental reports and research results from scientific literature. Officially transmitted information in any specific year, however, would not suffice to establish global estimates. Over the period June 2008 to May 2009, for instance, 115 countries provided UNODC with responses to the ARQ on Drug Use (Part II), but less than half of them (42 countries) provided new quantitative estimates and most of these estimates did not refer to 2007 but to some previous year. For countries that did not submit information, or in cases where the data were older than 10 years, other sources were identified, where available. In addition, a number of estimates needed to be 'adjusted' (see below). Since 1998, with the inclusion of estimates referring to previous years, UNODC has collected quantitative estimates of drug use among the general population for 128 countries and territories and 99 for student/youth populations. In cases of estimates referring to previous years, the prevalence rates were left unchanged and applied to new population estimates for the year 2007. Results from these countries were extrapolated to the sub-regional level and then aggregated into the global estimate

Detailed information is available from countries in North America, a large number of countries in Europe, a number of countries in South America, the two main countries in the Oceania region and a limited number of countries in Asia and in Africa. For other countries, available qualitative information on the drug use situation only allows for some 'guess estimates'.

One key problem in national data reported is still the level of accuracy, which varies strongly from country to country. While a number of estimates are based on sound epidemiological surveys, some are the result of guesswork. In other cases, the estimates simply reflect the aggregate number of drug users found in drug registries which probably cover only a small fraction of the total drug using population in a country.

Even in cases where detailed information is available, there is often considerable divergence in definitions used - registry data (people in contact with the treatment system or the judicial system) versus survey data (usually extrapolation of results obtained through interviews of a selected sample); general population versus specific surveys of groups in terms of age (such as school surveys), special settings (such as hospitals or prisons), lifetime, annual or monthly prevalence, et cetera.

In order to reduce the error from simply aggregating such diverse estimates, an attempt was made to standardize - as a far as possible - the very heterogeneous data set. Thus, all available estimates were transformed into one single indicator - annual prevalence among the general population aged 15 to 64 - using transformation ratios derived from analysis of the situation in neighbouring countries, and if such data were not available, on estimates from the USA, the most studied country worldwide with regard to drug use.

The basic assumption is that the level of drug use differs between countries, but that there are general patterns (for example, lifetime prevalence is higher than annual prevalence; young people consume more drugs than older people) which apply to most countries. It is also assumed that the ratio between lifetime prevalence and annual prevalence among the general population or between lifetime prevalence among young people and annual prevalence among the general population, do not vary too much among countries with similar social, cultural and economic situation. Various calculations of long-term data from a number of countries seem to confirm these assumptions.

Indicators used

The most widely used indicator at the global level is the annual prevalence rate: the number of people who have consumed an illicit drug at least once in the last twelve months prior to the study. As "annual prevalence" is the most commonly used indicator to measure prevalence, it has been adopted by UNODC as a key indicator to measure the extent of drug use. It is also part of the Lisbon Consensus[i] on core epidemiological demand

i The basic indicators to monitor drug use, agreed by all participating organizations that formed part of the Lisbon Consensus in 2000, and endorsed by the Commission on Narcotic Drugs, are:
- Drug consumption among the general population (estimates of prevalence and incidence);
- Drug consumption among the youth population (estimates of prevalence and incidence);
- High-risk drug use (estimates of the number of injecting drug users and the proportion engaged in high-risk behaviour, estimates of the number of daily drug users);
- Utilization of services for drug problems (number of individuals seeking help for drug problems);
- Drug-related morbidity (prevalence of HIV, hepatitis B virus and hepatitis C virus among illicit drug consumers);
- Drug-related mortality (deaths directly attributable to drug consumption).

While in the analysis of the drug use situation and drug use trends all these indicators were considered, when it came to provide a global comparison a choice was made to rely on the one key indicator that is most available and provides an idea of the magnitude for the drug use situation: annual prevalence among the population aged 15 to 64.

indicators (CN.7/2000/CRP.3).

The use of "annual prevalence" is a compromise between "lifetime prevalence" data (drug use at least once in a lifetime) and data on current use (drug use at least once over the last month). Lifetime prevalence data are often collected, but they are less useful in providing information about recent trends in the levels of drug use across countries. Data on current use could provide information to study even more recent trends. However, they often require larger samples in order to obtain meaningful results, and are thus more costly to generate, notably if it comes to drugs other than cannabis which is widespread.

The "annual prevalence" rate is usually shown as a percentage of the youth and adult population. The definitions of the age groups vary, however, from country to country. Given a highly skewed distribution of drug use among the different age cohorts in most countries (youth and young adults tend to have substantially higher prevalence rates than older adults or retired persons), differences in the age groups can lead to substantially diverging results. Typical age groups used by UNODC Member States are: 12+; 14+: 15+; 18+; 12-60; 16-59; 18-60; 15-45; 15-75; and, increasingly, aged 15-64. The revised version of the Annual Reports Questionnaire (ARQ) stipulates the age group 15-64 as the key population group to be measured. Where the age groups reported by Member States did not differ significantly from this age group, they were presented as reported and the age group specified. Where studies were based on significantly different age groups, results were adjusted to the age group of 15-64.

The methods used for collecting data on illicit drug use vary from country to country. This reduces comparability. The options for post adjustment to reduce these differences are limited. UNODC thus welcomes efforts at the regional level to arrive at more comparable data (as is currently the case in Europe under the auspices of EMCDDA and in the Americas under the auspices of CICAD).

Diverging results have also been obtained for the same country by applying differing methodological approaches. In such cases, the sources were analysed in-depth and priority was given to the most recent data and to the methodological approaches that are considered to produce the best results. For example, it is generally accepted that household surveys are reasonably good approaches to estimating cannabis, ATS or cocaine use among the general population, at least in countries where there are no adverse consequences for admitting illicit drug use. Thus, household survey results were usually given priority over other sources of prevalence estimates, such as reported registry data from the police or from treatment providers.

However, when it comes to heroin use (or drug injecting), annual prevalence data derived from national household surveys tend to grossly under-estimate such use [j], because heroin users often do not live in "typical" households (and may be homeless, in hospitals or in prisons); heroin use is often highly stigmatised so that the willingness to openly report heroin use may be lower; and users are often geographically concentrated in certain areas. A number of "indirect" methods have been developed to provide estimates for this group of drug users. They include various multiplier methods (such as treatment multipliers, police data multipliers, HIV/AIDS multipliers or mortality multipliers), capture-recapture methods and multivariate indicators. In countries where evidence existed that the primary "problem drug" in those countries was opiates, and an indirect estimate existed for "problem drug use" or injecting drug use (largely Western European countries), this was used in preference to household survey estimates of heroin use.

For other drug types, priority was given to annual prevalence data found by means of household surveys. A number of countries, however, did not report annual prevalence data, but lifetime or current use of drug consumption, or they provided annual prevalence data but for a different age group. In order to arrive at basically comparable results, it was thus necessary to extrapolate from reported current use or lifetime prevalence data to annual prevalence rates and/or to adjust results for differences in age groups.

j The problem of under-estimation is more widespread for heroin, but does also exist for other drugs such as cocaine or methamphetamine.

Indirect methods of estimating heroin use

Treatment multiplier: If a survey among heroin users reveals, for instance, that one quarter of them were in treatment in the last year, the multiplication of the total treatment population with a multiplier of four provides an estimate of the likely total number of problem heroin users in a country.

Police data multiplier: Similarly, if a survey among heroin users reveals that one out of five was arrested in the previous year, a multiplication of the persons arrested for heroin possession by the multiplier (five) provides another estimate for the number of heroin users.

Establishing various multipliers and applying them to the registered drug using population provides a range of likely estimates of the heroin use population in a country. Either the mid-point of the range, the median or the mean of these estimates can be subsequently used to arrive at a national estimate.

Capture-recapture models are another method based on probability considerations.[a] If in one register (for example, an arrest register) 5000 persons are found (for possession of heroin) and in a second register (such as a treatment register) 2000 persons are found (for treatment of heroin use), and 400 persons appear in both registers, the total population of heroin dependent users can be estimated through the following calculations. It can be assumed that 20% (400/2000) of heroin-dependent users have been arrested, so that the total heroin-using population could be around 25,000 (5000/20%).[b] Results can usually be improved if data from more than two registers are analysed (such as data from an arrest register, treatment register, ambulance register, mortality register, substitution treatment register, HIV register, et cetera). More sophisticated capture-recapture models exist, and are used by some countries to make calculations based on more than two registries.

Another approach is the use of multivariate indicators. For this approach, a number of local/regional studies are conducted, using various multiplier and/or capture-recapture methods. Such local studies are usually far cheaper than comprehensive national studies. They serve as anchor points for the subsequent estimation procedures. The subsequent assumption is that drug use at the local level correlates with other data that are readily available. For instance, heroin arrest data, heroin treatment data, IDU-related HIV data, etc. are likely to be higher in communities where heroin use is high and lower in communities where heroin use is low. In addition, heroin use may correlate with some readily available social indicators (higher levels in deprived areas than in affluent areas; higher levels in urban than in rural areas et cetera). Taking all of this additional information into account, results from the local studies are then extrapolated to the national level.

a Such methods were originally developed to estimate the size of animal population. If, for instance, 200 fish are caught (‘ capture’), marked, and released back into the lake, and then the next day 100 fish are caught, of which 10 were already marked (‘re-captured’), probability considerations suggest that the number of fish captured the first day were a 10% sample of the total population. Thus the total population of the lake can be estimated at around 2000 fish.

b The advantage of this method is that no additional field research is necessary. There are, however, problems as the two ‘ sampling processes’ for the registries in practice are not independent from each other so that some of the underlying assumptions of the model may be violated (e.g. the ratio could be higher as some of the people arrested are likely to be transferred to a treatment facility; thus the ratio does not correspond any longer to the true proportion of people arrested among the addicts population, and may lead to an under-estimation of the total heroin addict population).

Extrapolation methods used

The methods used for these adjustments and extrapolations are best explained by providing a number of concrete examples:

Adjustment for differences in age groups

The approach to age adjustments is highlighted using an example from New Zealand. New Zealand carried out a household survey in 2006, covering the population aged 15-45. According to this survey, annual prevalence of ecstasy use was found to affect 3.4% of the population aged 15-45, equivalent to about 71,200 people. Given the strong association between ecstasy use and younger age groups it can be assumed that there is little ecstasy use in the 45+ age group. Thus, dividing the ecstasy using population established above by the population size 15-64 (2.764 million) gives an estimated prevalence rate of 2.6%.

The situation is slightly more complex when it comes to cannabis. New Zealand reported a cannabis prevalence rate of 17.9% among the population aged 15-45; it is more likely that use would continue past the age of 45 years, based on studies of cannabis users in other countries. An estimate of cannabis use among those aged 15-64 years was therefore derived from an extrapolation from the age structure of cannabis users found in Australia, which was then applied to existing data for New

Zealand. Based on the assumption that the age structure of cannabis users in New Zealand is similar to the one found in Australia the likely annual prevalence rate of cannabis use in New Zealand for the population aged 15-64 can be estimated at around 13.3%; this is the estimate reported in the Statistical Annex. Similar approaches were also used for the age-group adjustments of data from other countries.

A number of countries reported prevalence rates for the age groups 15+ or 18+. In these cases it was generally assumed that there was no significant drug use above the age of 65. The number of drug users based on the population age 15+ (or age 18+) was thus simply shown as a proportion of the population age 15-64.

Extrapolation of results from lifetime prevalence to annual prevalence

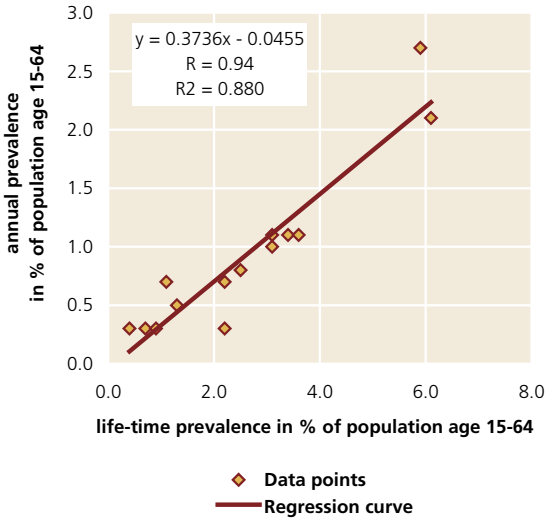
Some countries have conducted surveys in recent years but did not ask the question whether drug consumption took place over the last year. In such cases, results were extrapolated to arrive at annual prevalence estimates. Let's assume for example that a country in Europe reported a life time cocaine use of 2% and an annual prevalence rate is estimated based on this life time data. Taking data for lifetime and annual prevalence of cocaine use in countries of Western Europe it can be shown that there is a strong positive correlation between the two measures (correlation coefficient R = 0.94); that is, the higher the lifetime prevalence, the higher is the annual prevalence and vice versa. Based on the resulting regression curve (y = annual prevalence and x = lifetime prevalence) it can be estimated that a West European country with a lifetime prevalence of 2% is likely to have an annual prevalence of around 0.7% (see figure). Almost the same result is obtained by calculating the ratio of the unweighted annual prevalence rates of the West European countries and the unweighted lifetime prevalence rate (0.93/2.61 = 0.356) and multiplying this ratio with the lifetime prevalence of the country concerned (2% * 0.356 = 0.7%).

A similar approach used was to calculate the overall ratio by averaging the annual/lifetime ratios, calculated for each country[k]. Multiplying the resulting average ratio (0.387) with the lifetime prevalence of the country concerned provides the estimate for the annual prevalence (0.387 * 2% = 0.8%). Given this close relationship between lifetime and annual prevalence (and an even stronger correlation between annual prevalence and monthly prevalence), extrapolations from lifetime or current use data to annual prevalence data was usually given preference to other kinds of possible extrapolations.

k For each country the ratio between annual prevalence and lifetime prevalence is calculated. The results are than averaged: In our example: (0.64 + 0.32 + 0.43 + 0.14 + 0.32 + 0.38 + 0.35 + 0.32 + 0.75 + 0.31 + 0.32 + 0.33 + 0.46+ 0.34) : 14 = 0.387.

Annual and lifetime prevalence rates of cocaine use in Western Europe

Sources: UNODC, Annual Reports Questionnaire Data / EMCDDA, Annual Report.



Good quality results (showing only a small potential error) can only be expected from extrapolations done for a country in the same region. If instead of using the West European average (0.387), the ratio found in the USA was used (0.17), the estimate for a country with a lifetime prevalence of cocaine use of 2% would decline to 0.3% (2% * 0.17). Such an estimate is likely to be correct for a country with a drug history similar to the USA, which has had a cocaine problem for more than two decades which is different from Western Europe, where the cocaine problem is a phenomenon of the last decade.

Data from countries in the same region with similar patter in drug use were used, wherever possible, for extrapolation purposes.

Extrapolations based on treatment data

For a number of developing countries, the only drug-related data available on the demand side was treatment demand. In such cases, the approach taken was to look for other countries in the region with a similar socio-economic structure, which reported annual prevalence data and treatment data. A ratio of people treated per 1000 drug users was calculated for each country. The results from different countries were then averaged and the resulting ratio was used to extrapolate the likely number of drug users from the number of people in treatment.

Extrapolations based on school surveys

Analysis of countries which have conducted both school surveys and national household surveys shows that there

is, in general, a positive correlation between the two variables, particularly for cannabis, ATS and cocaine. The correlation, however, is weaker than that of lifetime and annual prevalence or current use and annual prevalence among the general population. But it is stronger than the correlation between opiate use and IDU-related HIV cases, and between treatment and drug use.

These extrapolations were conducted using the ratios between school surveys and household surveys of countries in the same region or with similar social structure. Two approaches were taken: a) the unweighted average of the ratios between school and household surveys in the comparison countries; and b) a regression-based extrapolation, using the relationships between estimates from the other countries to predict the estimate in the country concerned based upon the school survey estimate in that country.

A range was generated by these two estimates. These were used as the low and high range of the estimates of the annual prevalence of drug use among those aged 15-64 years in that country.

A note on ranges at the country level

As is no doubt clear from the discussion above, in many instances there is uncertainty about the exact values for extrapolated or imputed data. Different approaches can be used within a study, or to make estimates of the prevalence of drug use across studies. In this year's *World Drug Report,* where a number of estimates existed, or a variety of approaches to making estimates could be used, ranges were reported at the country level. This was intended to reflect the variation that can occur even within a country when different approaches to estimating the level of drug use are taken.

Making regional and global estimates of the number of people who use drugs

For this purpose the estimated prevalence rates of countries were applied to the population aged 15-64, as provided by the United Nations Population Division for the year 2007. The methods of calculating regional and global numbers were changed in this year's report relative to previous years.

Due to the considerable uncertainty and in the spirit of reflecting data gaps, no "absolute" numbers are provided, but rather, ranges have been produced. These reflect the uncertainty that exists when data are being either extrapolated or imputed. **Ranges** (not absolutes) are provided for estimated **numbers** and **prevalence.** Larger ranges will exist for those regions where there is less certainty about the likely level of drug use – in other words, those regions for which fewer direct estimates are available, for a comparatively smaller proportion of the region's population.

The data being used to generate the estimates comprise only those estimates considered sufficiently robust and/or recent to be published at the country level in the 2009 *World Drug Report's* tables. Unpublished estimates are not de facto included in estimates of prevalence at the country, subregional or global level.

Efforts were made to produce subregional and regional estimates. Such estimates were only made where direct estimates were published for at least two countries that comprise at least 20% of the subregion or region's population aged 15-64. Countries with one published estimate (typically those countries with a household survey, or an indirect prevalence estimate that did not report ranges) did not have uncertainty estimated. The same estimate was used for the lower and upper range.

In estimating ranges for populations in countries with no published estimate, the 10^{th} and 90^{th} percentile in the range of direct estimates was used to produce a lower and upper estimate. This produces conservative (wide) intervals for regions where there is geographic variation and/or variance in existing country-level estimates; but it also reduces the likelihood that very skewed estimates will have a dramatic effect upon regional and global figures (since these would most likely fall outside the 10^{th} and 90^{th} percentile).

World Drug Report estimates of the total number of people who used illicit drugs at least once in the past year

The approach used in this year's *Report* was the same as that of previous years, with the exception that ranges are now reported. Two ranges were produced, and the lowest and highest estimate of each the approaches were taken to estimate the lower and upper ranges, respectively, of the total illicit drug using population. This estimate is obviously tentative given the limited number of countries upon which the data informing the two approaches were based (see the list of countries below). The two approaches were as follows:

Approach 1. The global estimates of number of people using each of the five drug groups in the past year were summed together. To adjust for the fact that people use more than one drug type and these five populations overlap, the total was then adjusted downward. The size of this adjustment was made based upon household surveys conducted in the USA, Canada, Australia, the United Kingdom, Italy, Brazil, Mexico and Germany, which all assessed all five drug types, and reported an estimate of total illicit drug use. Across all of these studies, the extent to which adding each population of users overestimated the total population was an average of 116%. The summed total was then therefore divided by 1.17.

"Relative risk coefficient"					
	Treatment index	IDU index	Toxicity index	Deaths index	"Relative risk coefficient"*
Opiates	100	100	100	100	100
Cocaine	85.3	47.8	88	18.5	59.9
Amphetamines	20.1	59.5	32	6.8	29.6
Ecstasy	3.8	6.1	20.7	1	7.9
Cannabis	9	0	1.5	0.6	2.8

* Unweighted average across the four indices.

Approach 2. This approach was based on the average proportion of the total drug using population that comprises cannabis users. The average proportion was obtained from household surveys conducted in the USA, Canada, Australia, the United Kingdom, Italy, Brazil, Mexico and Germany, which all assessed all five drug types, and reported an estimate of total illicit drug use. Across all of these studies, the average proportion of total drug users that comprised cannabis users was 76%. The range of cannabis users at the global level was therefore divided by 0.76.

World Drug Report estimates of the number of "problem drug users"

There is clear utility in making estimates of the number of drug users who are experiencing problems related to their use. It is this subgroup of drug users who are most likely to come to the attention of health and law enforcement, and who drug use has been estimated to cause the majority of the public health and public order burden.

The number of problem drug users are typically estimated with the number of **dependent** drug users. Sometimes an alternative approach is used, employing a definition of **injecting or long duration use of opioids, amphetamines or cocaine**, as the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) uses to guide country level indirect prevalence estimation studies[l].

Making such estimates is a challenging undertaking, even at the country level. These challenges become even more salient when attempting to make regional and global estimates of the size of this population, where there are additional issues of data gaps at country and subregional levels on dependent or injecting drug use. The most common approach is to use some kind of extrapolation techniques.

In this *Report*, as in previous years, the following approach was taken. Each of the five range estimates for number of people using each of the five drug groups was converted into a "heroin user equivalent". This was calculated through the use of "relative risk coefficients" (see below) derived using the UNODC's Harm Index[m]. This allows for aggregating results from different drugs into one single reference drug (in this case, heroin). Using this coefficient, each of the five drug use estimates was converted into an estimate of the number of "heroin user equivalents". A lower range was calculated through summing each of the five lower range estimates; the upper end of the range was calculated by summing the upper range of the five estimates.

To obtain an estimate of the number of "problem drug users", these totals were multiplied by the proportion of past year heroin users in the United States National Survey on Drug Use and Health (range 53-68% over the past six years of the NSDUH). Hence, The LOW estimate of "problem drug users" is the lower proportion (53%) multiplied by the lower estimated size of the heroin use equivalent population (34.1 million heroin user equivalents).The HIGH estimate of "problem drug users" is the higher proportion (68%) multiplied by the higher estimated size of the heroin use equivalent population (56.3 million heroin user equivalents).

Concluding remarks

It goes without saying that each method of extrapolating results from other countries has weaknesses. These estimates should still be interpreted with caution. The 2009 *World Drug Report* reflects the different uncertainty that exists in the data. UNODC made an attempt to reduce the risk of bias by extrapolating data using, as far as possible, data from nearby countries in the region.

The global estimates presented in this report reflect likely orders of magnitude, as opposed to precise statistics on the prevalence and evolution of global drug use. More precise ranges can be produced when a greater number of countries provide estimates based on rigorous scientific methods.

l See http://www.emcdda.europa.eu/themes/key-indicators/pdu.

m For considerable detail on the logic and data underlying this Harm Index, please consult the *2005 World Drug Report.*

Editorial and production team

The 2009 *World Drug Report* was produced under the supervision of Sandeep Chawla, Director, Division of Policy Analysis and Public Affairs, by the Statistics and Surveys Section and the Studies and Threat Analysis Section.

Core team

Coen Bussink
Louisa Degenhardt
Raggie Johansen
Laureta Kazanxhiu
Anja Korenblik
Suzanne Kunnen
Kristina Kuttnig
Steven Malby
Angela Me
Matthew Nice
Preethi Perera
Thomas Pietschmann
Catherine Pysden
Martin Raithelhuber
Ali Saadeddin

Chapter 2

Ted Leggett

Contributors

Giovanna Campello
Gilberto Gerra
Deniz Mermerci
Barbara Remberg
Justice Tettey
Antoine Vella

The 2009 *World Drug Report* also benefited from the work and expertise of many other UNODC staff members in Vienna and around the world.

كيفية الحصول على منشورات الأمم المتحدة

يمكن الحصول على منشورات الأمم المتحدة من المكتبات ودور التوزيع في جميع أنحاء العالم. استعلم عنها من المكتبة التي تتعامل معها أو اكتب إلى: الأمم المتحدة، قسم البيع في نيويورك أو في جنيف.

如何购取联合国出版物

联合国出版物在全世界各地的书店和经售处均有发售。 请向书店询问或写信到纽约或日内瓦的联合国销售组。

HOW TO OBTAIN UNITED NATIONS PUBLICATIONS

United Nations publications may be obtained from bookstores and distributors throughout the world. Consult your bookstore or write to: United Nations, Sales Section, New York or Geneva.

COMMENT SE PROCURER LES PUBLICATIONS DES NATIONS UNIES

Les publications des Nations Unies sont en vente dans les librairies et les agences dépositaires du monde entier. Informez-vous auprès de votre libraire ou adressez-vous à: Nations Unies, Section des ventes, New York ou Genève.

КАК ПОЛУЧИТЬ ИЗДАНИЯ ОРГАНИЗАЦИИ ОБЪЕДИНЕННЫХ НАЦИЙ

Издания Организации Объединенных Наций можно купить в книжных магазинах и агентствах во всех районах мира. Наводите справки об изданиях в вашем книжном магазине или пишите по адресу: Организация Объединенных Наций, Секция по продаже изданий, Нью-Йорк или Женева.

CÓMO CONSEGUIR PUBLICACIONES DE LAS NACIONES UNIDAS

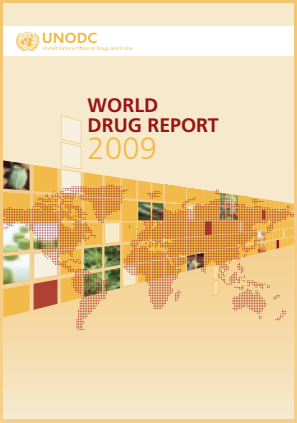
Las publicaciones de las Naciones Unidas están en venta en librerías y casas distribuidoras en todas partes del mundo. Consulte a su librero o diríjase a: Naciones Unidas, Sección de Ventas, Nueva York o Ginebra.

Printed in Malta
June 2009–1,700

United Nations publication
Sales No. E.09.XI.12
ISBN: 978-92-1-148240-9

UNODC
United Nations Office on Drugs and Crime

Vienna International Centre, PO Box 500, 1400 Vienna, Austria
Tel: +(43) (1) 26060-0, Fax: +(43) (1) 26060-5866, www.unodc.org



The *World Drug Report* presents comprehensive information on the illicit drug situation. It provides detailed estimates and trends on production, trafficking and consumption in the opium/heroin, coca/cocaine, cannabis and amphetamine-type stimulants markets. This year, for the first time, the *World Drug Report* includes special feature sections on the quality of drug data available to UNODC, trends in drug use among young people and police-recorded drug offences. It also discusses one the most formidable unintended consequences of drug control - the black market for drugs - and how the international community best can tackle it.

57000
9 789211 482409